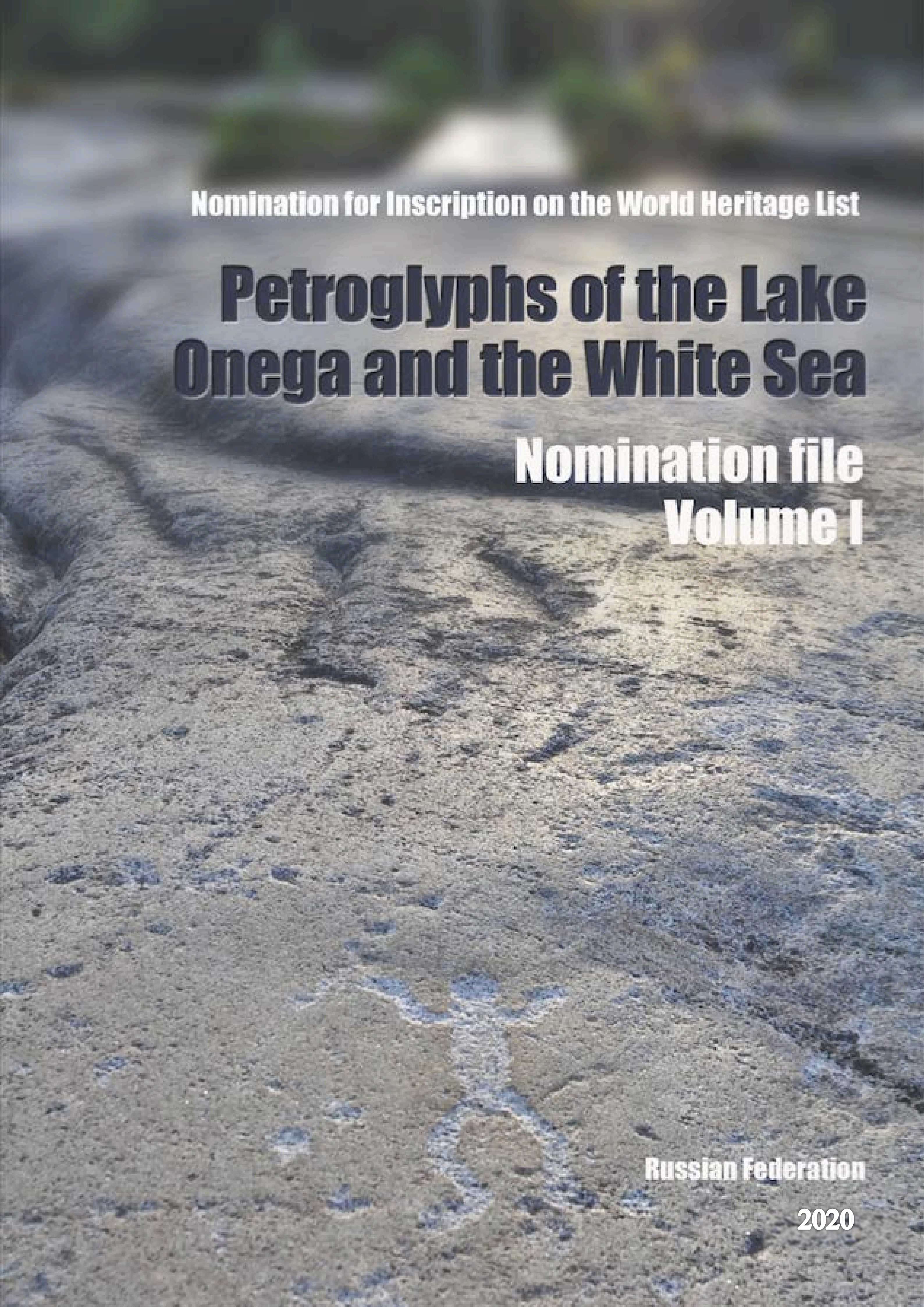

Nomination for Inscription on the World Heritage List

Petroglyphs of the Lake Onega and the White Sea

Nomination file
Volume I

Russian Federation

2020

2. DESCRIPTION

2.a Description of Property

The Petroglyphs of the Lake Onega and the White Sea are one of the largest areas of Prehistoric rock art in Northern Europe. They represent unique sources of information left by past populations of Karelia in the Neolithic period, that were fishermen, gatherers, forest and sea hunters. The many images give insight into their culture, and potentially both mythology, perception of the world, daily life and number of past tasks.

The components of the property are located in 300 kilometres distance from each other in the south-eastern and north-eastern part of Karelia. The petroglyphs are distinct with their large spread area and the number of images exceeding thousands, representing rock sanctuaries that were formed in special scenic and attractive locations visited and worshiped by people, including the areas of fisheries or seasonal migration of animals near vivid Prehistoric waterways. There are other archaeological sites located near the rock art sites dating from the period of the first colonization of Karelia in Mesolithic until the late Middle Ages. The vast majority of these archaeological sites has a direct connection with the same period with the petroglyphs. The natural landscape of the territory of the Petroglyphs of the Lake Onega and the White Sea has a high degree of conservation and representativity.

The Petroglyphs of the Lake Onega and the White Sea had been functioning almost at the same period, which is 6-7 thousand years ago and confirmed by scientific data. Many groups of rock art were later covered by the cultural layers with fairly accurately dated archaeological finds, which allowed to determine the upper chronological limit of their existence.

There are common features among the themes of Karelian rock complexes conditioned by similar natural conditions and economic activities of the population as well as certain differences related to techniques as well as ideological and aesthetic preferences of Prehistoric artists. Researchers identified number of features confirming that the Prehistoric populations of the Lake Onega and the south-western White Sea had a direct contact and possible family connections with each other at certain stages of the Neolithic epoch.

The Petroglyphs of Karelia are distinguished by a great variety of plots, their uniqueness and high artistic significance. For both of the components carved anthropomorphic figures have a special value: they feature realistic images of people of the remote era in all diversity of their activities: rowing, skiing, practicing archery or dancing as well as fantastic characters (“Demons” or “Besy”). There are also scenes with erotic content that testify the rituals once held here, which were connected with such an important theme as the continuation of the human race.

2.a.1 Component “Petroglyphs of the Lake Onega"

Component “Petroglyphs of the Lake Onega” comprises by 22 groups located on 17 capes and 6 islands. As of 2017, it contains 1,221 documented petroglyphs. Currently, 19 out of 25 parts of the Petroglyphs of the Lake Onega component has a designation of a cultural heritage site of federal importance, whereas 7 of them has a status of identified cultural heritage sites. The majority of the parts, petroglyphic groups (18), are located within the boundaries of the Muromsky Nature Reserve, including the southern part of the component, stretching from Gurij islands to the cape Kareckij Nos. The Northern part (the Kochkovnavolok peninsula, Chjornyj cape, Bol'shoj Golec and Mihajlovec islands) is located beyond the borders of the nature reserve, near the settlement of of Shalsky, and, therefore, is more accessible than the central part of the component.

2.a.1.1 Component part "Petroglyphs of cape Peri Nos I"

This petroglyphic sanctuary mainly functioned in the Neolith – Eneolithic period. The component part "Petroglyphs of the cape Peri Nos I" can be dated to 4000-3000 BC uncalibrated (in conventional dates).

The petroglyphs of the cape Peri Nos I were engraved on the rock, whose thrusts and chipping make its surface uneven. In some places, the rock adjoining the waterline is of reddish-brown colour. The figures form four small clusters. All images, according to the data of V. Poikalainen, are of birds (13) and 7 undefined figures. The majority of birds were engraved in the whole silhouette area, five birds are featured with legs and four birds without legs. All birds have small dimensions (5-10 cm) and were created in a technique of point engraving with hammer stone.

Some of the images are destroyed or poorly preserved due to the effects of water, ice and weathering. The images are partially covered with lichens, which has a negative impact on the rock and may result in the loss of the petroglyphs.

The component part "Petroglyphs of the cape Peri Nos I" is of undoubted interest for the studies of Prehistoric Art of Northern Europe.

The height of the petroglyphs above the level of the Lake Onega ranges from 0.5 to 1.2 m. Maximum linear dimensions of the component part "Petroglyphs of the cape Peri Nos I" total to 13-23x75 m.

2.a.1.2 Component part "Petroglyphs of the cape Peri Nos II, Petroglyphs of the cape Peri Nos III"

The cape Peri Nos III is the most protruding cape among all little capes making up the cape Peri Nos. The rock is of different colour, including dark-grey and reddish-brown colours. The area of the cap tip covered by the images is a flattened rock platform.

At a distance of 5 - 6 m from the edge of the shore, the surface of the rock is smooth, without lichens. The rest of the granite rock on the Cape Peri Nos III is covered with lichens; the surface is uneven due to stone erosion. The cape consists of a number of rock blocks of different height often crossed by natural cracks. There are holes in the rock in the western part of the cape, which appeared due to a stone drilling. A part of stone blocks, which were once part of the cape here, is obviously missing. The other part of granite blocks on the cape Peri Nos III, which could have had petroglyphs according to the character of the rock surface, shifted due to ice move in the lake and are currently underwater.

In total, as of 2013, there are over 200 images documented on the cape Peri Nos III, excluding petroglyphs on the rocks that were transported to the museums of Petrozavodsk and Saint Petersburg. The images of waterfowl dominate among the images. There are many images of anthropomorphic creatures, moose, solar and lunar signs and boats with oarsmen. Among rare images, it is necessary highlight the figures of bear and wands. The figures (contour and silhouette) were applied with a technique of point engraving. Their dimensions are different, ranging from 4 to 50 cm. Sometimes the drawings are carved in natural spots (xenoliths) on rocks. Many compositions can be identified among the drawings.

Petroglyphs of the cape Peri Nos II, III are of undoubted interest for the studies of the Neolithic period of Northern Europe: they would assist to define the chronology and establish connections between rock art sites and Prehistoric dwellings located in this region.

2.a.1.3 Component part "Petroglyphs of the cape Peri Nos IV"

There are 30 figures on flattened rock, which were engraved in silhouette and contour manner. There is also the only image of a dog among all petroglyphs of the Lake Onega.

Among the figures, the images of birds dominate (10). Two anthropomorphic figures, one presumable image of a boat, four figures resembling solar or lunar signs were documented in the component part, whereas 12 figures of the component part have not been identified yet. The images were applied in the technique of point engraving with stone hammer.

The component part "Petroglyphs of the cape Peri Nos IV" is of undoubted interest for the studies of Prehistoric art of Northern Europe.

2.a.1.4 Component part "Petroglyphs of the cape Peri Nos VI"

As of 2009, 122 petroglyphs were documented (excluding abstract signs and images of tools, associated with other figures) in total on the cape Peri Nos VI. As of 2013, there are 98 figures present on the cape, as other figures on two fragments of rock were transported to the Museum Fund of the Russian Federation.

The territory of the tip of the cape covered with images is a rocky a low-sloped platform. The smooth surface without lichens is located at the distance of 5-6 m. The rest of granite rock on the cape Peri Nos VI is covered with lichens, and the surface is uneven due to stone erosion. A few cracks cross the rock. At the tip of the cape in the area of rock engravings, there are two big cracks with rocky smooth hammered surface 50 cm deep. There is no tree vegetation on the tip of the cape, except for a few pines. The base of the cape is overgrown with young pines. Rocks are mostly covered with turf and, apparently, with sand drifts.

Plate 1 features petroglyphs with the 19 images of anthropomorphic figures, 12 abstract images, including three ice-holes and one fragmented shape, 1 image of a boat, 3 undefined images, including one fragmented image. Plate 2 has 5 figures; Plate 3 has a clear engraving of an ice-hole 1.2 cm in diameter. Plate 4 features a contour image of an elk with the dimensions of 32.3x44.5 cm. There are two images on Plate 5, one of them is fragmented, another is unclear engraving.

The component part "Petroglyphs of the cape Peri Nos VI," is of large interest for the studies of Prehistoric art of Northern Europe.

2.a.1.5 Component part "Petroglyphs of the cape Peri Nos VII"

Petroglyphs are engraved into a reddish-brown or dark rock face. Single figures on the cape are small in size, and are scattered very sparsely, despite that there are many other places available for carving on the rock. An anthropomorphic figure and a solar sign were found on the northern side of the cape. In the central part, quite far from the water, there are two images of waterfowl. Petroglyphs were engraved using a hammer stone.

The tip of the cape covered with images is a rocky platform, which steeply descends into the water. At a distance of 5 to 6 meters from the edge of the shore, the surface of the rock is smooth and unspoilt by lichens. The rest of the granite cliff on Cape

Peri Nos VII is covered with lichens and its surface is uneven due to stone erosion. There are several cracks on the rock. Some of the petroglyphs are worn off by exposure to water, ice and weathering.

The component part "Petroglyphs of Cape Peri Nos VII" is of undisputed value to the studies of the Prehistoric art of Northern Europe.

2.a.1.6 Component part "Petroglyphs of the cape Besov Nos (northern group)"

Component part "Petroglyphs of the cape Besov Nos (northern group)" has 30 petroglyphs. Predominantly, these are figures of birds (9 in total, of which 6 are swans). The most prominent one is that of a large swan with strips on its body, which is about 50 centimetres in height. V.I. Ravdonikas considers it as 'the best example of geometric-like shapes known on the Lake Onega in terms of their artistic value'. The images in the northern group include signs (solar and lunar), animals (a beaver and seven moose), a depiction of a boat with three oarsmen, an anthropomorphic armless figure and a figure of a skier wearing a mask.

The images are pecked with a hammer stone. All petroglyphs of the cape vary in size, engraving patterns, style, sharpness of the contour, orientation, and other characteristics. There are a lot of bright images. Some of the images were smoothed out by exposure to water, ice and weathering.

The component part "Petroglyphs of the Cape Besov Nos (Northern Group)" is undoubtedly of interest for the studies of the Prehistoric art of Northern Europe.

2.a.1.7 Component part "Petroglyphs of the cape Besov Nos (Central Group)"

The component part "Petroglyphs of the cape Besov Nos (Central group)" are carved on the edge of the tip of the Cape Besov Nos on a reddish-brown and grey face of the rock. Its 3 large figures (over 2.5 meters) have been attracting the attention of the public for many years. There is an anthropomorphic creature ("demon" or "bes"), an otter (or lizard) and a burbot (catfish). There are over 150 petroglyphs in total, predominantly of birds. There are only a few compositions devoted to hunting (to bear, sea creatures), a flock of waterfowl and one fishing scene (with a harpoon). A distinctive feature of this component part is the absence of so-called lunar and solar signs, which can be seen in abundance on neighbouring capes and islands. The petroglyphs on Cape Besov Nos are located at an altitude of 0.7 to 2 m above the lake level.

The component part "Petroglyphs of the cape Besov Nos (central group)" is of considerable interest to the studies of the Prehistoric art of Northern Europe.

2.a.1.8 Component part "Petroglyph on the cape Besov Nos"

According to the number of features, the images of the component part "Petroglyph on the cape Besov Nos" are belonging to the later periods (presumably, the late Middle Ages, or the 15-16th centuries). An analysis of trace materials is required to determine the precise dates.

The component part "Petroglyph on the cape Besov Nos" is of value for the studies of the rock art of Northern Europe.

2.a.1.9 Component part "Petroglyphs of the cape Gazhij Nos"

The petroglyphs of the cape Gazhij Nos are concentrated in three small clusters almost on the same level with the upper or middle part of a rather steep coastal rocky slope. The canvas containing the drawings is stretched from the south to the north. The rock face is smooth and reddish. A total of 13 figures have been recorded, including 8 birds (swans), an anthropomorphic creature, a zoomorphic figure and three lines. All of the figures are small in size (15 to 17 cm), heavily stylized, silhouette-shaped with wide line forms. The images are engraved with a hammer stone.

The component part "Petroglyphs of the cape Gazhij Nos" is of value for the studies of the Prehistoric art of Northern Europe.

2.a.1.10 Component part "Petroglyphs of the cape Kareckij Nos"

The petroglyphs of the cape Kareckij Nos are located along the entire uneven surface of the rock inclining towards the lake at the south-western tip of the cape. Petroglyphs form several clusters, each depicting a variety of scenes. Single figures are also present.

There are 166 petroglyphs on the Cape Kareckij Nos in total. The most frequently depicted ones are so-called solar and lunar signs. They vary in size and in appearance. There are numerous images of birds, especially waterfowl. Some of the animals include the frequent depictions of moose, wolves and bears. There are a number of anthropomorphic images, as well as rowers in boats (with 12 images of boards documented in the component part). Original images include: "wands" (2), "paddle" and, possibly, a tree. The images are silhouette-shaped and have contour and silhouette-contour. The images were engraved with a hammer stone.

Some of the images have been destroyed by exposure to water, ice and weathering. The images are partially covered with lichens, which has an adverse impact on the rock and may eventually lead to the loss of petroglyphs.

The component part "Petroglyphs of the Cape Kareckij Nos" presents an undoubted value for the studies of the Prehistoric art of Northern Europe.

2.a.1.11 Component part "Petroglyphs of the cape Kladovec"

Currently, 41 figures have been documented on the Cape Kladovec, excluding underwater images. The images dominated by figures of birds (30 in total), mostly swans. The number of petroglyphs is likely to increase after underwater investigations.

The component part "Petroglyphs of the Cape Kladovec" presents undoubted value for the studies of the Prehistoric art of Northern Europe.

2.a.1.12 Component part "Petroglyphs of the cape Korjushkin Nos"

Over 20 separate figures, mostly of waterfowl, were documented in the component part. They occupy small sections of a relatively smooth rock and often form separate small subgroups (creating simple compositions) or represent single figures.

The component part "Petroglyphs of the cape Korjushkin Nos" present an undoubted value for the studies of the Prehistoric art of Northern Europe as well as for understanding the starting phase of the petroglyphic tradition of Karelia.

2.a.1.13 Component part "Petroglyphs on the peninsula Kochkovnavolok (group "A"), Petroglyphs on the peninsula Kochkovnavolok (group "B"), Petroglyphs on the peninsula Kochkovnavolok (groups "C")"

The Petroglyphs of the Lebedinij Nos have been studied quite comprehensively, despite the fact that the images on the rock are barely visible due to the substantial wear of the rock face as a result of the influence of abrasive natural processes of weathering, smoothing effects of ice and water, as well as the growth of lichens, mosses and algae.

In total, there are 122 images in groups A, B and C. 92 of them are found in group A, 3 images in group B and 27 in group C. In all these groups, petroglyphs are similar in style, engraving technique and themes. The following depictions are presented: waterfowl (swans), moose, boats (with and without the crew) as well as images of people. The sizes of the rock carvings vary considerably ranging from 0.3 to 4 m in length.

The rock face containing the images is largely weathered and has numerous hollows and cracks. Most of the cracks (across the cape) are directed towards the south-north (almost perpendicular to the coastline). Many of them are filled with soil. The lower part of the rock face has been smoothed by ice and waves. There are fewer lichens, therefore, the petroglyphs have better state of conservation. There is a significant destruction of the rocks above this level. To the south-west, the rock gets steeper becoming less convenient for engraving.

A group of considerably large petroglyphs (about 50 cm on average) are located mostly on the north-eastern flank of the rock. There are no such images found on the south-eastern flank.

The following images have been documented: 55 figures of waterfowl (at least 36 figures of swans; ducks or geese, one image of a crane), 14 moose, 8 anthropomorphic creatures (including the boat passengers) as well as a few images of snakes and bears. Some of the notable original figures include images of boats (including passengers), a crane and a large anthropomorphic etching in hands up position (which has been interpreted to represent a schematic female image). The most interesting and unusual image is a composition featuring people carrying a contraption made up of rods with bent ends: there are six connected and partially overlapping figures, executed in detail. The composition resembles a magical procession probably related to totemistic rituals.

The component part "Petroglyphs of the Kochkovnavolok peninsula (Group "A"), Petroglyphs of the Kochkovnavolok peninsula (Group "B"), Petroglyphs of the Kochkovnavolok peninsula (Groups "C")" is of great value to the studies of the development of rock art on Lake Onega and plays an important role in identifying and analysing changes in the style and nature of the images.

2.a.1.14 Component part "Petroglyphs on the peninsula Kochkovnavok (group "D")"

The Component part "Petroglyphs on the peninsula Kochkovnavok (group "D")" is a single linear 60 cm long image in the shape of a bracket with ends bending outwards. This is most likely a schematic depiction of a boat without passengers. The bow and the forage are engraved at the right angles to the deck. They are crowned with heads of birds (swans), their left heads facing the lake are longer and clearer. The image is located right above the water level at an altitude of less than 0.5 m. It is currently the only recorded petroglyphs of the Kochkovnavolok peninsula. The engraving style is unusually rough, there are large traces of single pecks. The image of the figure looks incomplete (there are untouched areas), however its whitish colour is distinctly visible in grey of the rock and its right side contains cracks. In general, the image is quite traditional for the Lake Onega and have analogies in other component parts (Cape Kareckij Nos, Peri Nos and others).

Considering the high-altitude data, the petroglyph supposedly belongs to an earlier period than other rock carvings on the peninsula.

The component part "Petroglyphs of the Kochkovnavolok Peninsula (Group "D")" is of great value for the studies of the development of rock art on the Lake Onega and play an important role in identifying and analysing changes in the style and nature of the images.

2.a.1.15 Component part "Petroglyph on Mihajlovec island"

The pecking relief of a petroglyph figure is in the form of a contour circle of 13 cm in diameter and is very small (about 1 millimetres) with uneven edges. The image is partially damaged by small shallow potholes.

It is located on the smooth flat section of the cliff of the northern cape of the island just above the water (about 10-20 cm).

The component part "Petroglyph on Mihajlovec island" is valuable for the studies of the earlier stages of the development of the rock art of the Lake Onega.

2.a.1.16 Component part "Petroglyph on the cape Chjornyj"

The section of the rock containing the component part "Petroglyph on the cape Chjornyj" has a smooth grey surface slightly inclined towards the lake. The petroglyph is an image of a bird with its head turned to the south-west and a relatively long hind body and an upturned tail. The length of the figure is 14.5 cm, it has distinctive linear forms and schematic style. The pecks are quite small (especially in the head and tail), however, they are fairly clear and visible on the rocky surface.

The component part "Petroglyph of the cape Chjornyj" is of value for the studies of the early stages of the development of the rock art of the Lake Onega.

2.a.1.17 Component part "Petroglyphs of Moduzh island"

The first cluster of images is fairly dense and is about 1 square meter in size. It contains 11 figures, mostly of waterfowl of small sizes (8). They are complete with three bending stripes, which could possibly represent very schematic birds. All of them are shown in silhouette and have no legs. Almost all of them (with one exception) are grouped in two flocks, one next to the other. The images are highly schematic and possibly belong to a later stage of the development of the Lake Onega petroglyphs. The images were engraved with a stone hammer. The second cluster of petroglyphs is located 4 meters to the south-east from the first one. It includes images of 12 birds "swimming" in the southern and northern direction. They are 4 to 8 cm in length. The engraving technique and the shape of petroglyphs are similar to the images found in the first group. Apparently, both clusters located close to each other belong to the same period.

The rock in the component part is dark and patinated. Images are covered with microliths.

The component part "Petroglyphs of Moduzh island" is of undoubted value for the studies of the Prehistoric art of Northern Europe.

2.a.1.18 Component part "Petroglyphs of Bol'shoj Golec island"

The petroglyphs are located on the northern tip of the island of Bol'shoj Golec on a granite ledge with a smooth horizontal surface. There is a composition showing five small birds, most likely a brood of swans. All the figures are oriented towards the Cape Peri Nos, where such petroglyphic depictions are common.

The petroglyphs are deeply and carefully engraved, however, currently, they are entirely covered with microliths and, therefore, scarcely visible on the face of the rock.

2.a.1.19 Component part "Petroglyphs of Bol'shoj Gurij island I, Petroglyphs of Bol'shoj Gurij island II"

In total, there are 27 images in the groups 1 and 2 located 23 meters away from each other on the island of Bol'shoj Gurij. The main themes include swans, boats, feral animals and signs (solar, lunar, and others).

All petroglyphs of the island of Bol'shoj Gurij were completely cleared of microliths due to noticeable fluctuations of the water level in Lake Onega. The images are masterfully carved and are well-visible. The petroglyphs located in the lowest parts of the coast, however, are not always available for investigation due to the fluctuations in the water level in the lake, which occasionally conceals the images.

Part of the component “Petroglyphs of Bol'shoj Gurij island I, Petroglyphs of Bol'shoj Gurij island II” represent an undoubted value for the studies of the Prehistoric art of Northern Europe.

2.a.1.20 Component part “Petroglyphs on Malyj Gurij island”

The petroglyphs are located in the south-western part of Malyj Gurij island and are compactly grouped on a smooth and flat rocky surface of grey color at an altitude of 0.2-0.4 m above the waterline.

In total, 14 figures were identified and described with their sizes varying from 11 to 62 cm. The following petroglyphic motives were identified: figures of moose (4), figures of swans (4), figures of boats (2), solar signs (2), one anthropomorphic image (a dancing person) and a short line of incomprehensible character. Their style, application technique and orientation of images testify to the isochronism of their creation. A long boat with many people, some of those engraved in full height, could be mentioned as one of the original figures, not so common for the Lake Onega petroglyphs.

Currently, the petroglyphs are covered with lichens, and, therefore, poorly seen on the grey rock surface.

The petroglyphs present a great interest for the studies of the rock art of Northern Europe.

2.a.1.21 Component part "Petroglyphs in the mouth of the river Vodly"

A petroglyphic group in the mouth of the river Vodly is located on a low coastal rock, which slope faces the east. The rocky surface is predominantly grey and is densely covered with lichens; the smooth rock of reddish-brown colour is found only in some places. Rock art canvas is divided into a few stripes by longitudinal cracks 2.5-3 m in width. Almost all figures of the group are hardly visible with a few exceptions.

Within the territorial boundaries of the component part “Petroglyphs in the mouth of the river Vodly” due to the natural exposure only a small part of petroglyphs is partially preserved. There is a granite block with two petroglyphs, standing separately from the main group in the mouth of the river. It stands vertically in the water, facing the south. Most likely, this block was torn off from the main rock massif and moved from its former position (which could not be determined so far).

The number of petroglyphic motives in the mouth of the river Vodla is not diverse, as there are only 4 themes, including waterfowl birds (67 figures which makes about 81% from the total number), hoofed mammals (10 figures, 12%), other figures are isolated. Among isolated images, there is one unique figure for the peninsula, a figure of great beluga whale. It has small dimensions and not well-preserved. There is also an image of a beaver (or an otter). The images of people and boats are non present with many unidentified fragments of engravings.

The component part “Petroglyphs in the mouth of the river Vodly” is of great interest for studies of the rock art of the Lake Onega.

2.a.1.22 Component part “Petroglyphs in the mouth of the river Chjornaja”

The component part "Petroglyphs in the mouth of the river Chjornaja” is located on the western slope of a small rocky island that forms a domed elevation.

In total, eight figures were identified, forming a semblance of a ring composition, which faces the open lake. It features two bears, an elk and a deer, two birds and an incomprehensible figure and a skier with a long stick. One of the figures was damaged during an attempt to drill the rock (apparently in the middle of the 20th century). All figures have silhouette contours of small dimensions (8-14 cm). They are deeply engraved, however, they merge with black background of the rock and are hardly visible.

The component part "Petroglyphs in the mouth of the river Chjornaja" is of undoubted interest for the studies of the Prehistoric art of Northern Europe.

2.a.2 Component "Petroglyphs of the White Sea"

The lower reaches of the river Vyg is a part of the White Sea abrasion-accumulative and swamp plain located in the subzone of the northern taiga with coastal, heavily terraced and swamped type of landscape. A system of powerful rapids, a broad belt of bare ledge rock is situated along the waterline. Numerous islands in the river delta are separated by narrow channels and brooks. It is an environmental niche against the background of the vast lowland, which opens the way to the sea. The component evolved in special scenic place apparently visited and worshiped by people even before the petroglyphs were created in the place of fisheries or seasonal migrations of animals near the vivid waterways of the Prehistoric period. This place probably brought people for certain seasonal celebrations and is located near the dwellings of the creators of the petroglyphs.

The natural conditions in the Prehistoric period, when the petroglyphs were created, were quite different comparing to the current climatic conditions: noticeable changes occurred in the structure and dynamics of forests, fauna, level of water basin, etc.

The territory of the component is located 6-8 kilometres away from the town of Belomorsk. This is the largest concentration of the rock art in European part of Russia and one of the largest rock art centres in Northern Europe located on the islands of the river Vyg (today the former Vyg islands, though when the water is drained, the landscape becomes similar to the Prehistoric). In total, the component have few thousand individual figures. The birth of rock art is far from being accidental here: there are smooth, horizontal or slightly inclined to water deposits in the coastal area. They are quite wide and smooth sometimes and filled with crystalline deposits (granite-gneisses, belonging to the lower Archaeus period dating to over 3 billion years BC), which are partially overlapped with Quaternary sediments.

Researchers consider that there was a Prehistoric centre of spiritual life of the Neolithic population, where rites and festivals took place. In terms of performance skill, many petroglyphic compositions of Zalavruga are indisputable masterpieces of the world rock art.

There are 11parts in the component "Petroglyphs of the White Sea" located in large and small islands of the river Vyg 6-8 km away from Belomorsk. As of 2017, 3400 individual figures were documented in the component. The majority of the petroglyphs is located on 4 large islands of the lowest reaches of the river Vyg: Shoyrukshin (Besovy Sledki I), Erpin Pudas I – IV, Bolshoi Malinin (Zalavruga and small group of petroglyphs in the southern tip of the island), Bolshoy Bezymyanny island along the rift of the river Zolotec (Zolotec I). Other three small groups of petroglyphs are located on small islands without names down from the island Erpin Pudas.

2.a. 2.1 Component part "Petroglyphs Zalavruga"

In total, there are 2596 engraved figures on the territory of the component part "Petroglyphs Zalavruga". There are 431 anthropomorphic images, 762 various footprints, 369 images featuring labour tools, daily life, rituals, 386 images of boats, 205 images of animals, 443 images of unidentifiable figures and some unidentified fragments. Petroglyphs occupy the most advantageous and smooth horizontal rocky areas with the protrusions of granite-gneiss grey or slightly reddish colour.

Zalavruga features real masterpieces of Prehistoric rock art not only of Northern Europe, but also of the whole world. Its images contain multiple figures and quite expressive with its highly artistic scenes of beluga whale hunting, forest hunting for moose and deer, waterfowl (geese) and bog (black grouse) birds, battle scenes, ritual compositions, etc. There are no similar rock art sites of the Stone age in the world in terms of the variety of themes, narrative lines and high level of artistic expression. The images show people, boats, most often with oarsmen shown in full height and different footprints (of people, of a man, traces of ski poles and ski). Local petroglyphs show the maximum number of narrative known in the studies of the rock art of Karelia.

The northern part of the territory of the component part "Petroglyphs of Zalavruga" is occupied by the petroglyphs of so-called "Old" Zalavruga, which includes 590 engravings. Engravings feature the following motives: 38 deer/moose, 2 bears, 7 sea animals (beluga whales), 2 birds, 1 snake, 71 anthropomorphic figures, 217 traces of people and animals, 72 boats, 61 engraving with hunting tools (bows, arrows, etc.), 45 ski traces and ski equipment, solar signs, 74 odd lines and figures. The compositions created as a chain of giant figures of deer, a whole flotilla of fishing boats with a huge number of oarsmen, figures of skiers, a detailed scene of hostile clashes featuring wounded and even killed, are of great interest.

The petroglyphs of the rest part of "Petroglyphs of Zalavruga" component part are called "New" Zalavruga. Currently, it includes 2006 figures within 28 groups and a few subgroups.

2.a.2.2 Component part "Petroglyphs Besovy Sledki"

Currently, the component part "Petroglyphs Besovy Sledki" counts 400 figures. The rock canvas is divided into two sections: the main cluster of 397 petroglyphs located inside the pavilion and 3 images located outside the pavilion.

Rock art images feature the following motives: moose/deer - 70, sea animals - 60, bears and foxes - 13, beaver/otter - 1, fish - 1, birds - 38, boats - 50, people - 52, 41 - boatmen, hunting tools - 15, "stars", "crosses", unidentified fragmented engravings, etc. - 100.

In terms of size, the figures can be divided into large (50-92 cm), medium (20-50 cm) and small (less than 20 cm) in length. The depth of the engravings ranges from 1.5 to 3.5 mm. The figures of sea animals (beluga whales) and large ungulates (deer) predominate. There are 16 scenes and no less than 30 compositions. The scenes of beluga hunting, forest animals as well as animals reminding walruses and seals are among the most interesting motives.

The engravings feature some totally unusual scenes as well as rare figures, including a large anthropomorphic image, so-called "Demon" or "Bes", a chain of its footprints running along the rock canvas, seals and walruses with fangs, foxes, "stars" and "crosses".

The second petroglyphic section consisting of only two obvious figures is located 17 meters away from the pavilion building on a slope on the coastal section of grey rock with many potholes and uneven surfaces with a section of rock surface covered with crusts lichens. There is an image of deer 18-24 cm long. The images are practically invisible among the cracks. They were engraved with relatively small pickets and for this reason they were unnoticed previously.

The petroglyphs are of great interest for the studies of the rock art of Northern Europe.

2.a.2.3 Component part "Petroglyphs Erpin Pudas I"

Currently, the component part "Petroglyphs Erpin Pudas I" includes 32 figures. They feature the following themes: forest animals - 2, sea animals - 3, swan - 1, boats - 21, anthropomorphic image -1, incomprehensible fragments of figures - 4. The petroglyphs of this group differ from others by a bigger engraving depth (3 – 3.5 mm). The main themes of these rock art images are boats with passengers or empty boats and dears. Figures of seals are among rare images. There is one intricate and very complex composition which has a unique syncretic image in its centre, which is a man-beluga whale.

The rock surface featuring the component part "Petroglyphs Erpin Pudas I" is divided into sub-rectangular blocks with longitudinal and transverse cracks and splits. This is the remainder of a larger group: a number of petroglyphs was lost due to the destruction of the rock. One of the breakaway blocks with engravings lies next to the southeast corner of the cliff surface. The fragments of figures on its edge (with dimensions 1.6 m x 0.28 m) facing the cliff are well-preserved. Apparently, this rock fragment was first separated from the mass under the ice pressure and today lies next to the southeast corner of the rock carpet. On its face (with dimensions 1.6 m x 0.28 m) facing the rock fragments of figures are well-preserved. This fragment of the rock, apparently, was first separated from the mass by the ice and, then, turned in the opposite direction to its original orientation. The northern end of the block is now facing the south; whereas its southern end faces the the north.

The petroglyphs are of great interest for the studies of the rock art of Northern Europe.

2.a.2.4 Component part "Petroglyphs Erpin Pudas II"

The component part "Petroglyphs Erpin Pudas II" is located on the western coast of the island of Erpin Pudas and includes two isolated rock petroglyphic sites with the distance between the sites of less than 25 m.

The first section with the main petroglyphic cluster is represented by a separate breakaway rock, severely weathered and covered with splits and scars, which is located at the height of 16.45-16.52 m of the sea level (in the Baltic system of heights). The second section with a single image of a fairly large boat with arcuate wafer without oarsmen (a part of the body was lost due to the shear) is located at the height of 17 m above the sea level.

In total, there are 7 figures in the group, most of which are small. The engravings feature the following motives: reindeer – 5, boat – 1, anthropomorphic image – 1. The depth of engraving does not exceed 1 mm.

The component part "Petroglyphs Erpin Pudas" present undoubted interest for the studies of the rock art of Northern Europe.

2.a.2.5 Component part "Petroglyphs Erpin Pudas III"

5 isolated sections of rock surface with rock engravings stand out within the territorial boundaries of the component "Petroglyphs Erpin Pudas III." In total, researchers documented 114 figures featuring the following themes: moose/deer - 38 figures, sea animals - 13, bears - 1, dogs - 2, birds - 1, boats - 9, instrumental tools - 5, anthropomorphic figures, including reflecting the theme of the continuation of the human race - 18, indefinite fragments of figures - 27. The figure of an elk with big branching horns is considered as a unique image, apart from this, there are palimpsests, i.e. the superimposition of the figures upon each other.

The main part of the images is organized in composition, which can be considered by its plan in one horizontal vertical row and by physical co-relation in the scenes of sea hunting. The depth of engravings is comparatively small (about 1-1.5 mm). They are poorly visible on rock surface. There are well-preserved and noticeable images only in the right corner of the cliff canvas.

The component part "Petroglyphs Erpin Pudas II" undoubtedly is of interest for the studies of the rock art of Northern Europe.

2.a.2.6 Component part "Petroglyphs Erpin Pudas IV"

The component part "Petroglyphs Erpin Pudas IV" is located on a rock section with weathered surface of light grey colour. Currently, there are at least 29 figures in this group.

The engravings feature the following themes: sea animals (11), boats (8), birds (4), odd images and fragments (6). Obvious compositions could not be traced with an exception of one case: two images of waterfowl birds. A half of all figures have rather stylized contours, however, there are some more realistic images. The images of boats within a group are not traditional for the White Sea: they resemble those of the Lake Onega with their narrow boat body and the tip of stem post in a form of the head of a waterfowl. Large figures of waterfowl, perhaps, geese (3), are also quite interesting, as it is quite rare for the petroglyphs of the White Sea.

All images (with one exception) have silhouette contours being covered with a layer of lichens, therefore, they are poorly visible on the rock surface.

The component part "Petroglyph of Erpin Pudas IV" are of a great interest for the studies of the rock art of Northern Europe. They belong to one of the earliest stages of the development of the rock art of the White Sea and have direct connections with the Lake Onega petroglyphs.

2.a. 2.7 Component part "Petroglyphs on the no-name islands I"

The component part "Petroglyphs on the no-name islands I" occupies two separate rock cliffs located within 24 m away from each other. 18 engravings (the main agglomeration) were documented in the first section of the rock surface. They mainly feature the images of boats (14), deer (3) and one fragment of destroyed engraving of unclear character. Most figures have deep relief (no less than 2-2.5 mm). It is narrow only in two cases, and the relief is deep and quite deep in a number of images. The majority of the images of boats do not feature passengers and have a common look for the White Sea with pointed keel protrusions, a stem post with the animal head and elevated body.

There are only 2 petroglyphs in the second section of the rock (in the form of a large basket-shaped and unclear curved image). Being engraved onto a fairly smooth light grey surface with long scars of glacial origin, they are adjacent to the edge of a steep cliff. The relief of the images is comparatively deep (2.5 mm) and heavily smoothed.

Petroglyphs can be traced quite well on the grey surface of the cliff. The component part “Petroglyphs of the nameless islands I” is of great interest for the studies of the rock art of Northern Europe.

2.a.2.8 Component part “Petroglyphs on the no-name islands II”

In total, 26 petroglyphs were documented: 21 engravings and 5 odd fragments of images. All boats were drawn with crews; empty boats are featured only in two cases. The crew is normally shown standing in full height. The length of boats varies from 0.2 to 1.1 m. The figures are almost untraceable visually and the precision of their outlines is rather low.

The component part “Petroglyphs on the no-name islands II” is undoubtedly of interest for the studies of the rock art in Northern Europe.

2.a.2.9 Component part "Petroglyphs on the no-name islands III"

The part of the component "Petroglyphs on the no-name islands III" is located on the southern tip of the same nameless island as the component part "Petroglyphs on the no-name islands II" (2a. 2.8.). They are represented by two isolated groups at almost horizontal rock surfaces with the distance between them 4.4 m and the altitude gap about 0.6 m.

In total, currently, 15 images have been documented featuring the following themes: boats – 4, people – 2, deer – 2, a round spot – 1, fragments of rare figures – 6, 1 composition of 6 unidentified figures. The only obvious composition out of two anthropomorphic figures (a coital scene) and a silhouette circle clearly stand out. All images have a shallow relief (1 – 1.5 mm), therefore, they are not clearly noticeable on the grey rock surface.

The component part "Petroglyphs on the no-name islands III" undoubtedly present an interest for the studies of the rock art of Northern Europe.

2.a. 2.10 Component part “Petroglyphs on the island Bol'shoj Malinin”

The component part “Petroglyphs on the island Bol'shoj Malinin” is located on the south-eastern shore of Bol'shoj Malinin island in light grey eroded surface adjacent to the sheer drop. 8 engravings placed in a space-saving manner were registered. In the majority of cases, these are boats with oarsmen and rare fragments of partially lost figures. Their dimensions vary from 12 to 31 cm. They are shown in profile, in full height, they stand half-bent holding in raised hands some objects with increased thickenings on both ends (either wands or oars).

2.a. 2.11 Component part “Group of Petroglyphs Zolotec I”

The component part “Group of Petroglyphs Zolotec I” is located on the section of the rock with a fairly weathered surface of grey colour inclined to the river. The height of the petroglyphic groups is 14.6-17.7 m above the sea level. This group numbers 101 figures in total. The number of petroglyphs in the Prehistoric period was higher, however, a part of engravings was completely lost due to natural processes of weathering and exfoliation. The rock carpet with petroglyphs is divided into left and right flanks by a crack which goes in the direction from the north-east to the south-west. The left flank of the rock canvas features 26 images.

The figures go down the slope in the direction to the north-south for one and a half meters. The right flank features 75 figures and the area of rock canvas here is larger.

The engravings feature the following themes: boats (27), people (8), forest animals (4), footprints of animals, including footprints of birds (5), beluga whale (11), rare engravings and fragments of images (22), contour oval (1). It is necessary to mention among the original figures a small bird almost entirely (except for the hind limb) inscribed in the correct oval. The scenes of individual hunting for beluga whales from a boat dominate in compositions.

In general, images are mostly schematic, petroglyphs are engraved comparatively not deep (no more than 1-1.5 mm) with an exception of a single bird figure and an oval (2.4-3 mm). The petroglyphs of the group have relatively small dimensions (15 cm on average). The largest engraving is not exceeding 50 cm in length. There are many small figures with the dimensions of 10-15 cm and even less. Engraving technique and themes have analogies among the petroglyphs of “New” Zalavruga.

2b. History and development

2b.1 Component “Petroglyphs of the Lake Onega”

The history of discovery and study of the Lake Onega petroglyphs is a long process which continues to present. It is caused by a constant interest of experts and amateurs to unusual and mysterious archaeological sites as well as evolving methods for their research and photo documentation. There are the following 4 stages in the history of the research of the Component “Petroglyphs of the Lake Onega”:

1) Pre-revolutionary stage (1848-1914)

K. Grevingk, a geologist from Saint Petersburg, and P. Shved, a teacher from Petrozavodsk, discovered rock engravings (“Olonec carvings”) on the eastern shore of the Lake Onega in 1848. Two years later, they published the first information about the site (Shwed, 1850; Grevingk, 1850) and the Lake Onega petroglyphs were introduced into research discourse. The publications were accompanied by sketches of petroglyphs made with a pencil by eye, therefore, they often distorted the real outlines of the figures engraved on the rocks. In 1949, the first copies of the Lake Onega petroglyphs were made by Pudozh county land surveyor N.V. Yumatov, however, his drawings were not preserved.

After a considerable break (over 50 years), the works of the expedition of G. Hallström, a Swedish archaeologist, in 1910 and 1914 became an important milestone of the first stage. Together with his colleagues M. Berkitt (University of Cambridge) and B. Schnitger (University of Stockholm), G. Hallström made photo documentation and copied 412 figures found in 7 groups and in 25 subgroups (agglomerations) during two field works. Unfortunately, the World War I did not allow him to complete the research.

Only a small part of the data on the Lake Onega petroglyphs, collected by these researchers, were published later. The unpublished materials of G. Hallström (plans, schemes, copies of petroglyphs) are kept in the archives of the Umea University. These materials are of considerable interest as they contain the data on rock canvas in the Cape Peri Nos II, which, in 1934, was separated from the main rock mass and was delivered to the State Hermitage. The copies made by the Swedish researcher were comparatively precise, taken with a see-through tracing paper from rock sections with petroglyphic images, where the carvings were previously painted with chalky solution.

2) Pre-War Stage (1928-1940)

Serious research of the Lake Onega petroglyphs was not conducted till the end of the 1920-s. In 1928-30 and in 1934-35, the documentation of the petroglyphs and excavations of surrounding Prehistoric dwellings were conducted by the archaeological expeditions of A. Y. Bryusov (Moscow) and the founder of the Russian petroglyphic studies V.I. Ravdonicas (Leningrad). The research resulted in an in-depth academic publication of V.I. Ravdonicas (1936) with good quality copies accompanied with photos and plaster models of individual, most interesting images, as well as the monographs of A.M. Linevsky (1939) and A. Y. Bryusov (1940).

The work by V.I. Ravdonicas “Rock images of the Lake Onega” (1936) presents a detailed catalogue of all petroglyphs of the eastern coast of the Lake Onega known for that moment, giving general schemes of petroglyphic locations. The paper by B.F. Zemlyakov, which included a brief information on region geology and Prehistoric dwellings discovered in the vicinity of rock art sites was published in the Appendix to the book of V.I.

Ravdonicas. This monograph was highly valued both in the USSR and abroad. Research importance of this publication is still high, despite its certain imperfections.

The shortcomings include incompleteness of data, absence of accomplished compositions in groups with a large number of images, neglect to the details of microlandscape (natural cracks, splits), certain inaccuracies in connection of the figures and their outlines, not always precise orientation in respect to the sides of the world. In general, 1930-s proved to be very fruitful for the studies of the petroglyphs of the Lake Onega (both field and desk research). Over 400 individual figures were discovered and published, Scandinavian copying technique was practiced, allowing to keep record of comparatively big rock sections with Prehistoric engravings. Moreover, the methodology of research and key research issues were identified for this rock art site. However, field studies of the identifying petroglyphs were still not sufficient.

3) 1960-1990-s

The third stage was the most successful, especially in terms of expanding the territory of petroglyphic complexes using more accurate and complementary ways of revealing and documenting rock art sites.

A new surge of interest to the theme of rock images of Karelia facilitated major discoveries of petroglyphs in the White Sea in 1963-1967 ("New" Zalavruga, groups of Bezymyanny islands and etc.) made in 1960-s. During these years, papers by K.D. Laushkin, a follower of V.I. Ravdonicas, appeared in research and popular journals. He made another attempt to fully reveal the functional purpose of the Lake Onega petroglyphs.

However, the most significant event in the petroglyphic research was the publication of a monograph by U.A. Savvateev "Zalavruga, Part 1", containing the entire corpus of sources on the petroglyphs of the White Sea with a broad historiographical overview and a general review of the rock art studies issues.

Two sections of this book are dedicated to the Lake Onega rock art. The petroglyphs were comprehensively described with key goals and issues in connection to their studies were outlined. The author analyzed common and distinctive features of the petroglyphs of the Lake Onega in comparison to similar sites of the White Sea. The petroglyphs of the Cape Peri Nos III, which became exhibits of the State Hermitage, were first published in this work.

In 1972-1979, the research team of U.A. Savvateev performed purposeful and continuous field work in the Lake Onega and surrounding Prehistoric dwellings. The identification of new petroglyphs, copying, detailing and updating of the former documentation and preparations of maps were continued. 11 new clusters were discovered in the course of the field works with a few figures discovered underwater in breakaway granite blocks in the vicinity to the capes (Kladovec Nos, Besov Nos, Peri Nos, Kareckij Nos).

A full catalogue of the rock art sites (including new data) was supposed to be published in order to solve the research issues on dating, cultural interpretation, comparative analysis, systematic analysis with the archaeological data of surrounding Prehistoric settlements and discover archaeological sites synchronized with the rock art sites. Unfortunately, the manuscript, accepted by Iskusstvo publishing house, was not published. Only some sketch information and drawings of the most impressive figures were included in some popular science publications.

Since 1982, the Lake Onega rock engravings became the subject of intense attention of the amateurs from Tartu and Tallinn (Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen).

Different professionals participated in the expedition to the eastern coast of the Lake Onega, including engineers, surveyors, photographers, artists, whose professional skills were used in the full scope. They applied the method of photometric documentation using the marks of coordination grid on rocks (1 x 1 m) on the Lake Onega for the first time. The documentation was performed from a staircase from the height of 2.5 – 3 m. Large figures were documented in segments by an auxiliary coordinate grid (0.5x0.5 m).

In the late 1980-s and early 1990-s, Estonian researchers made a discovery in Kochkovnavok peninsula, near the mouth of the river Vodla. In particular, they discovered three previously unknown groups of images (Lebediny Nos A, B, C) and published a detailed catalogue of the rock art sites of the Kochkovnavok peninsula and Bol'shoj Golec island (in English), featuring about 1/6 of all known petroglyphs of the Lake Onega. The catalogue structure is based on graphic information of different hierarchical levels ranging from the plans of petroglyphic groups to individual images united by a common binding system at all levels. The publication presents a fairly accurate general map of the territory and a layout of monuments with binding of petroglyphs to compass points, and the details of microrelief, splits and scars on the rock surfaces.

This information was missing in previous publications. Although, it is necessary to note that in certain cases the documentation of the petroglyphs was not correct: there were some petroglyphs identified by mistake or some images were missing.

The mistakes and inaccuracies of the documentation were often conditioned by a poor state of conservation of the rock art on the Kochkovnavolok peninsula. Moreover, graphite copying of petroglyphs was rarely applied (although, at that time, it was the most precise method for petroglyphic fixation).

4) 1997-2016

This stage is connected with a systematic comprehensive field studies conducted by Karelian archaeologists from the Karelian Research Center of the Russian Academy of Sciences and Petrozavodsk State University jointly with Norwegian colleagues from the University of Tromsø and Riksantikvaren (Oslo), and British colleagues from the University of Cambridge under the supervision of N.V. Lobanova.

The field work was conducted within the framework of the following research projects: Karelian and Norwegian project "Preservation of the Rock Art of Karelia" (1997-2002), "Preservation and Presentation of Zalavruga Petroglyphs" (2007-2008), a microproject of TACIS "Stone Book of the White Sea" (2006) and "Documenting the Petroglyphs of the White Sea" (2001-2015), the Russian State Research Foundation's project "Creation of Petroglyphic Database of North Fennoscandia" (2005-2007), a cross-border cooperation project "Bridge of the Rock Art: Connection of Times" (2013-2014), a project "Development of the Methodology for the Protection of Rock Art Sites from Negative Natural and Anthropogenic Impact" (2013).

Rescue excavations of Prehistoric dwellings surrounding the Lake Onega petroglyphs with participations of scientists including geologists, ecologists and lichenologists were also conducted in 2012-2013.

During this period, the works completed were not only focused on the documentation of the rock art sites, but also encompassing the issues of their preservation, conservation and sustainable use for tourism and educational purposes. One of the key results of the works is the creation of the database management system "Petroglyphs of Karelia". This database contains topographic plans, photographs and graphical copies of images, their detailed description (general and specific with dimensions, orientation, height above the water, the depth of engraving, the degree of preservation, parametric data, various interpretations of individual figures or compositions).

In 1997-2001, in 2008 and in 2013, lichenologists from the Forest Research Institute of the Karelian Research Centre of the Russian Academy of Sciences (M.A. Fadeyev) and Petrozavodsk State University (A.A. Sonin), archaeologists from the Institute of Language, Literature and History and Petrozavodsk State University conducted a joint research. Numerous samples were collected to determine the species composition of rock biodestructors, to elucidate the processes of rock surface erosion and to describe rock geomorphology. These works were of great importance for the development of the conservation methods for the Lake Onega engravings. There was a particular focus on defining the impact of lichens on rock petroglyphic surface and searching for the methods mitigating their negative impact on the rock art.

Lychienobiotics monitoring allowed to identify the most difficult petroglyphic groups in The Lake Onega in terms of conservation as well as to offer practical recommendations for their conservation and environmentally safe methods to mitigate destructive processes. Researchers established 6 grounds (three on the Kochkovnavolok peninsula, one on the Cape Kareckij Nos and two in the central cape of Besov Nos) to monitor lichenobiots. They also identified species of epilithic lichens growing on some petroglyphs.

Mainly, these are cristose lichens, sometimes foliated identified in the most challenging zones at the height of 1.8-2 m above the waterline level in the Kochkovnavolok peninsula and in Kareckij Nos and at the height of 1.5 m in Besov Nos. Researchers offered recommendations and methods of safe rock cleaning from lichens. It was recommended to clean lichens with usual detergents and with participation of lichenologists, only on the locations, where the degree of overgrowing with lichenobiots is the highest (for instance, in the Kochkovnavolok peninsula, Lebediny Nos, almost all figures needed cleaning).

Geological and geomorphological studies along the eastern coast of the Lake Onega had been conducted since 1980-s. (Kostin, 1989) and continued in 2008 and 2013. The research resulted in the identification of the composition of the rock as charnockites and enderbits. These rocks belong to the group of granites and consist mainly of minerals such as plagioclase and quartz with a certain proportion of biotite, pyroxene, etc. They are highly resistant to weather and mechanical influences: the dissolution of minerals of these rocks is quite slow both by water and under the influence of organic acids released by lichens, which conditions the fairly good state of conservation of the rock art sites.

Moreover, a Kareckij Complex consisting of enderbite and charnockitoids was identified stretching from Gurij Islands and the Cape Tolstij in the south and to Golci in the north. It differs by dark grey and grey colour with brownish biotite present in all varieties of rocks. Kareckij Nos and Peri Nos are composed mainly of charnockitoids. It gradually changes into enderbits in the vicinity of Mihajlovec island. In the area of Gurij island, they interchange with each other, whereas in Golci only enderbits were identified.

For the lower reaches of the river Vodla, Kochkovnavolok peninsula and to the north (up to the Losiyi Islands) coarse-grained (rapakivi-like) granites would be more typical. The colours of granitoids are red, greyish-pink, grey. It is necessary to mention the absence of xenoliths, rock fragments, which shape oval sports of dark grey colour, that often incorporated into petroglyphic compositions (Bolshoi Guryj island, Peri Nos, etc.).

In 2005-2016, new effective methods of identification and documenting were applied for the Lake Onega petroglyphs, adapted to local peculiarities, quality of rock surface and degree of site conservation.

A comprehensive research could not be limited to the research of only petroglyphs, therefore, a broad context (which has also been studied) is also important. The field method of documenting the petroglyphs of the Lake Onega included the method of black plastic by Norwegian rock art experts, area and panoramic photography, photogrammetry, which made possible to considerably expand the data on petroglyphic sources and clarify old data.

Since 2006, the most accurate methods are applied for copying petroglyphs (on micalent paper and China rice paper since 2016). Using these methods, it is possible to obtain not only the outlines of figures, but also their relief and rock relief.

In 2004 and 2008, the images on the inverted granite slabs (4 rock fragments that broke away from rock mass in the Prehistoric period) were documented on the cape Peri Nos VI. Two of the slabs were transported to the National Museum of Karelia and included into the exhibition.

Underwater studies, launched by U. A. Savvateev in 1972-73, were also continued. In 2008-2010, another granite slab with rock art near the cape Kladovec Nos was discovered by divers from Saint Petersburg. Underwater studies near the eastern coast of the Lake Onega have not been accomplished yet: researchers relate the existence of several breakaway rock fragments with figure engravings underwater. The idea of the Museum of Underwater Rock Art requires special attention, planning and funding. Even the underwater rock art sites discovered in the beginning of 1970-s and in 2000-s at the bottom of the lake do not have exact coordinates of their position, detailed description, photographs and copies.

In 2015, a monograph by N.V. Lobanova “Petroglyphs of the Lake Onega” was published. The publication provides comprehensive and reliable overview of the Lake Onega rock art sites in their natural and cultural context. The majority of the data in the monograph was published for the first time, whereas earlier data was updated. The monograph outlines the history of the studies of the rock art sites as well as the methods applied for their studies, identifying specific features of their locations, chronology and periodization, Prehistoric and current natural environment, clarifying the connections of certain surrounding Prehistoric dwellings with the rock art sites. This publication is based on the detailed catalogue of the Lake Onega petroglyphs and includes the data known for 2014. The work also contains a significant number of black and white or coloured illustrations as well as a brief English summary.

Therefore, basing on the above mentioned overview of the research activities conducted regarding the territory of the Lake

Onega petroglyphs component, it is considered that the studies of the component is conducted in comprehensive and purposeful way (with an annual archaeological monitoring conducted from 1998 to 2016). However, the multidisciplinary research with the application of natural scientific methods (geology, geomorphology, lichenology, ecology) was conducted on occasional basis and has not covered the entire territory of the component yet. As a result, currently, it is not possible to have a complete database and dataset on the state of conservation of the rock art sites of the component as well as its natural surroundings. This issue could have a negative affect on the state of conservation of the component in the future.

2.b.1.1 Component part "Petroglyphs of the cape Peri Nos I"

The petroglyphs of the Cape Peri Nos I were first documented in 1934-1935 by V.I. Ravdonikas. In 1972-1973, the petroglyphs were researched by U. A. Savvateev. In the 1990-s, a cluster of petroglyphs on the Cape Peri Nos was researched by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen. In 2013, a new instrumental and topographic plan of the territory was completed with the photo documentation of the general views of the petroglyphic rocks conducted.

2.b.1.2 Component part "Petroglyphs of cape Peri Nos II, Petroglyphs of cape Peri Nos III"

This rock art site is dated to the Neolithic period.

The rock images of the Cape Peri Nos could be dated in conventional (uncalibrated) dates to 4000 BC.

The petroglyphs in the Cape Peri Nos were discovered in the second part of the 19th century by K. Grevingk and P. Shved (1848). Two years later, the first publications on the petroglyphs were released in 1910 and 1914, and they were further studied by G. Halström and M. Berkit and by A.M. Linevsky, A. Y. Bryusov in 1920-1930-s. The petroglyphs on the Cape Peri Nos III were first documented in 1935 by V.I. Ravdonikas.

In 1972-1975, the site was studied by U. A. Savvateev, who discovered more images, unknown previously. In the 1990-s, a cluster of petroglyphs in the Cape Peri Nos was studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen. In 1999-2001 and 2013, the studies were continued by N. V. Lobanova, who also discovered new petroglyphs.

In the first part of the 20th of the XX century, the parts of petroglyphic rocks became museum exhibits. In 1927, a rock fragment, which was broken under the pressure of waves and ice, was delivered to the Karelian State Museum. In 1935, the researcher F. M. Morozov transported 4 rock fragments with petroglyphs from the Cape Peri Nos III to the State Hermitage. The largest of them is exhibited in the permanent collection of the museum. Due to its two-sided shape of the surface and the abundance of symbolic figures, it was called a "roof". A few images were lost during the separation of the fragments from the rock.

The petroglyphs of the cape Peri Nos II were first documented by V. I. Ravdonicas in 1935. In 1972-1975, the expedition of U.A. Savvateev discovered a more images. In 2010 and 2013, new figures were also discovered by N.V. Lobanova.

In 2016, the topographic plan of the site was corrected and the boundaries of the Peri Nos II-III were defined, whereas the territory of the Peri Nos I stand was excluded in accordance with the technical assignment for the preparation of nomination dossier for the inscription of the Petroglyphs of the Lake

Onega to the UNESCO World Heritage List. The general views of the component part were photo documented with its topographic boundaries defined.

2.b.1.3 Component part "Petroglyphs of the cape Peri Nos IV"

This rock art site is dated to the Neolithic and Eneolithic periods. It can be dated in conventional (uncalibrated dates) to 4000-3000 BC.

The petroglyphs of Peri Nos IV were first documented in 1934-1935 by V.I. Ravdonicas. In 1971-1973, the petroglyphs were studied by U.A. Savvateev. In 1990-s, it was studied by the Estonian Society for Prehistoric Art under the guidance of V. Poikalainen.

In 2013, a new instrumental and topographic plan of the territory of the component part "Petroglyphs of the Cape Peri Nos IV" was developed, the general views to the rock arts site were photo documented, its territorial borders were also determined.

2.b.1.4 Component part "Petroglyphs of the cape Peri Nos VI"

The rock art site Cape Peri Nos has been dated to the Neolithic and Eneolithic periods (4000-3000 BC).

It was discovered in the second part of the 19th century by K. Grevingk and P. Shved (1848). Two years later, the first publications on the petroglyphs were released in 1910 and 1914, and they were further studied by G. Halström and M. Berkit and by A.M. Linevsky, A. Y. Bryusov in 1920-1930-s. The petroglyphs on the Cape Peri Nos III were first documented in 1935 by V.I. Ravdonikas.

In 1971-1974, the site was studied by U. A. Savvateev. In the 1990-s, a cluster of petroglyphs in the Cape Peri Nos was studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen. In 2004, an Estonian artist, L. Yiekalda, a member of the Estonian Society of Prehistoric Art, discovered a stone slab with previously unknown petroglyphs in Cape Peri Nos VI. According to the data of V. Poikalainen, there were 86 rock art images, including some fragmented figures, in the Cape Peri Nos VI as of 2008.

In 2008, the expedition of the Petrozavodsk State University of A. M. Zhulnikov discovered and documented 3 stone plates with petroglyphs (No. 1-3) in the Cape Peri Nos VI. It was confirmed that these plates broke under spring pressure of ice from the main rock mass and shifted from the tip of the cape Peri Nos VI in Prehistoric period. The expedition also studied 2 stone plates with petroglyphs (No.4-5) discovered in the cape Peri Nos VI in 2004 by L. Yikalda.

In 2009, plates No. 1 and 2 were transported to Petrozavodsk and became a part of the permanent collection of the Karelian State Museum.

In 2009, A.M. Zhulnikov discovered one plate (No.7) with three images in the Cape Peri Nos VI.

In 2013, a new instrumental and topographic plan of the territory of the component part "Petroglyphs of the Cape Peri Nos VI" was developed, the general views to the rock arts site were photo documented.

2.b.1.5 Component part "Petroglyphs of the cape Peri Nos VII"

Cape Peri Nos VII has been dated to the Neolithic and Eneolithic periods (4000-3000 BC). The rock art is considered as satisfactory preserved. The site was discovered and documented in 1973 by U.A. Savvateev.

In 2013, a new instrumental and topographic plan of the territory of the component part "Petroglyphs of the Cape Peri Nos VII" was developed, the general views to the rock arts site were photo documented.

2.b.1.6 Component part "Petroglyphs of cape Besov Nos (northern group)"

The rock art at Cape Besov Nos (northern group) has been dated to the Neolithic and Eneolithic periods (4000-3000 BC).

The petroglyphs were first documented by V.I. Ravdonicas in 1934-1935. In 1972-1975 U.A. Savvateeev discovered more images. In the 1990-s, the petroglyphs were studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen. The studied were later continued by N. V. Lobanova.

In 2013, a new instrumental and topographic plan of the territory of the component part "Petroglyphs of the Cape Besov Nos (northern group)" was developed, the general views to the rock arts site were photo documented.

2.b.1.7 Component part "Petroglyphs of the cape Besov Nos (central group)"

The rock art at cape Besov Nos (central group) has been dated to the Neolithic (4000 BC).

It was discovered in the second part of the 19th century by K. Grevingk and P. Shved (1848). Two years later, the first publications on the petroglyphs were released in 1910 and 1914, and they were further studied by G. Halström and M. Berkit and by A.M. Linevsky, A. Y. Bryusov in 1920-1930-s. The petroglyphs on the Cape Peri Nos III were first documented in 1935 by V.I. Ravdonikas.

In 1970-s, U.A. Savvateeev discovered more images. In 1973, underwater studies near the cape Besov Nos were also conducted and resulted in the discovery of several petroglyphs.

In the 1983-1992, the petroglyphs were studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen.

In 1999-2008, the studies were continued by N. V. Lobanova, who found new images on the edge of the cape Besov Nos in 2008. The data was published in her monograph (2015).

2.b.1.8 Component part "Petroglyph on the Cape Besov Nos"

The petroglyph was discovered by U. A. Savvateev in 1967 during archaeological field works on the eastern shore of the Lake Onega. Unfortunately, the researcher did not provide any information on this petroglyph in his report. In 1973, the expedition of U.A. Savvateev conducted photo documentation and description of the petroglyph (without topographical plan of the site).

In 1999, the field works were continued by N.V. Lobanova, who prepared a topographical plan and the description of the site, as well as conducted photo documentation and made a graphite copy of the petroglyph.

In 2016, a new topographic plan of the territory of the component part was developed, the general views to the rock arts site were photo documented, a new graphite copy of the petroglyph was made.

2.b.1.9 Component part "Petroglyphs of the cape Gazhij Nos"

The cape Gazhij Nos rock art has been dated to the Neolithic and Eneolithic periods (4000-3000 BC).

I was first documented in 1935 by V.I. Ravdonikas. In 1971-1974, the site was studied by U. A. Savvateev. In the 1990-s, it was studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen.

In 2013, a new instrumental and topographic plan of the territory of the component part was developed, the general views to the rock arts site were photo documented.

2.b.1.10 Component part "Petroglyphs of the cape Kareckij Nos"

The rock art site Cape Kareckij Nos has been dated to the Neolithic and Eneolithic periods (4000-3000 BC).

It was first documented in 1935 by V.I. Ravdonikas. In 1971-1974, the site was studied by U. A. Savvateev. In the 1990-s, it was studied by the Estonian Society for the Study of Prehistoric Art under the guidance of V. Poikalainen.

In 2007, the studies were continued by N.V. Lobanova, who discovered new petroglyphs in the component part.

In 2013, a new instrumental and topographic plan of the territory of the component part was developed, the general views to the rock arts site were photo documented.

2.b.1.11 Component part "Petroglyphs of the cape Kladovec"

The petroglyphs in the cape Kladovec Nos were first registered by V.I. Ravdonicas in 1935. In 1972-79 the sites were researched by U.A. Savvateev. In 1999, 2008-2009 they the research was conducted by N.V. Lobanova. In 1973 the expedition of U.A. Savvateev carried out underwater research and discovered here a few images at the lake bed, some 10 km away from the shore, located in the wreckage of a granite plate that had slipped down to the lake as a result of natural exposure. In 2009 the expedition of N.V. Lobanova continued the underwater exploration. The expedition discovered one more rock wreckage with the images of swans within 5 meters from the main petroglyphic cluster, at the depth of 4 m.

The accurate geo-tagging of underwater discoveries is absent. In 2016 the topographic plan of the component part was updated, photos of the rock featuring rock art images were taken, the territorial boundaries of the protruding rock featuring ancient rock art images were defined.

The boundaries of groups of petroglyphs have been determined, the territory of dwelling is excluded in accordance with the technical task for the preparation of nomination materials for the inclusion of Petroglyphs of the Lake Onega in the UNESCO World Heritage List, photographing of the common views of the component parts and determining the topographic boundaries of petroglyphs was performed.

2.b.1.12 Component part "Petroglyphs of the cape Korjushkin Nos"

According to the modern data, the Onega petroglyph sanctuary dates to the Neolithic-Eneolithic period, at the end of V – beginning of IV c. BC. Based on a number of features, the groups of petroglyphs in the Cape Korjushkin Nos can be referred to the initial stage of rock art of the Lake Onega.

The petroglyphs of the Cape Korjushkin Nos were first discovered in 2010 by the participants of the expedition of N.V. Lobanova as they researched the mouth of the Chjornaja river. They discovered two rock art images. In 2011-2013 the research in the cape Korjushkin Nos was continued by the same expedition.

In 2016, a detailed instrumental topographic plan for the territory of the component part was made, the photographs of the general views of the rock, featuring rock art images were taken, and the mikalent copies of petroglyphs were made to produce further graphite drawings based on those copies. The petroglyphs in the cape Korjushkin Nos were preserved in incomplete state, a part of figures was lost due to the natural exposure, all figures were smoothed and badly seen. A few images (3) at present are located on rock wreckages next to the main rock mass.

2.b.1.13 Component part "Petroglyphs on the peninsula Kochkovnavolok (group

"A"), Petroglyphs on the peninsula Kochkovnavolok peninsula (group "B"), Petroglyphs on the peninsula Kochkovnavolok (group "C")"

The petroglyphs of groups A, B and C date back to the Neolithic period - the end of the 4th millennium BC, and presumably belong to the final stage of formation of the petroglyphic complex in The Lake Onega.

The petroglyphs on the Kochkovnavolok Peninsula (Groups A, B, C) were discovered by the expedition of Estonian Society of Prehistoric Art under the guidance of V.Poikalainen in 1986-1991. The cape where they were discovered got a name "Lebediny Nos" owing to a large number of engraved figures of swans. In 1998-1999 and in 2013 the figures were researched by N.V. Lobanova. As a result of these works the data was clarified, the materials of research were published in the monograph "Petroglyphs of the Lake Onega" (2015). In 2016 the boundaries of the territory of the component part were defined, taking into account the rock surface, inextricably connected with petroglyphs, expressed in the surrounding landscape and limited with the natural features of the rock relief; surveying of the territory of petroglyphs and photo documentation of their current state were performed and the mikalent copies and the description of their state were compiled.

2.b. 1.14 Component part "Petroglyphs on the peninsula Kochkovnavok (group "D")"

The component part "Petroglyphs on the peninsula Kochkovnavolok (group D)" was discovered by the expedition of the Estonian Society for Prehistoric Art under the guidance of V. Poikalainen in 1989. In 1998-1999 and in 2013 the research was conducted by N.V. Lobanova. As a result of the works the instrumental plan was compiled and photo documentation was made, the research materials were published in the monograph "Petroglyphs of the Lake Onega" (2015).

In 2016, the boundaries of the component part "Petroglyphs on the peninsula Kochkovnavolok (group D)" were determined, taking into account the rock surface, inseparably connected with it, expressed in the surrounding landscape and limited by natural features of the rocky relief; surveying of the territory and photo documentation of the current state of the component part "Petroglyphs on the peninsula Kochkovnavolok (group D)" were made, mikalent copies were made and descriptions of its state and its main properties were compiled.

2.b.1.15 Component part "Petroglyph on Mihajlovec island"

Based on the analogues of the Besov Nos disctrict, found in the mouth of the Chjornaja river and in the cape Kareckij Nos, the rock art image can be dated to the Neolithic period (4000 BC).

The component part "Petroglyph on Mihajlovec island" was discovered by N.V. Lobanova in 2009 during expeditions to Mihajlovec island, photo documentation of the rock with the petroglyph was made, the work for defining the boundaries of the rock panel featuring rock art images was executed and a graphite copy was made.

2.b.1.16 Component part "Petroglyph on the cape Chjornyj"

Based on the analogues found in Besov Nos area (at the mouth of the river Chjornaja, at the cape Peri Nos and Kareckij Nos), the petroglyph of the cape Chjornyj dates back to the Neolithic age, 4000 BC. The petroglyph in the cape Chjornyj was discovered in 2016 by an expedition under the guidance of N.V. Lobanova. In 2016 the territorial borders of the component part "Petroglyph of the cape Chjornyj" were defined, taking into account the rock surface inseparably connected with it, expressed in the surrounding landscape and limited by natural features of the rocky relief; the topographic survey and photo documentation of the component part “Petroglyph of the Cape Chjornyj” were performed as well as the description of the state of the component part “Petroglyph of the cape Chjornyj” and its main properties.

2.b.1.17 Component part “Petroglyphs of Moduzh island”

The present petroglyph sanctuary has been dated to the Neolithic-Eneolithic period (4000-3000 BC).

The petroglyphs on Moduzh island were discovered and documented in 1972 by the expedition of U.A. Savvateev. In 1997 the expedition of Estonian society for Prehistoric Art (under the guidance of V. Poikalainen) discovered a small cluster of petroglyphs on Moduzh island. In 1998 the research of the component part “Petroglyphs of Moduzh island” were carried out under the guidance of N.V. Lobanova. In 2013 a new instrumental topographic map of the territory of the component part “Petroglyphs of Moduzh island” was compiled and the photo documentation of the general views of the rock featuring rock art images was taken.

2.b.1.18 Component part “Petroglyphs of Bol'shoj Golec island”

The petroglyphs date back to the Neolithic period, 4000 BC uncalibrated.

The petroglyphs in Bolshoi Golec island were discovered in 1973 by the expedition of U.A. Savvateev. In 1998-1999 and in 2013 the monument was researched by N.V. Lobanova. The materials of research were published in the monograph “Petroglyphs of the Lake Onega” (2015).

In 2016 the territorial boundaries of the component part “Petroglyphs of Bol'shoj Golec island,” considering the rock surface inextricably connected with it, being limited with natural features of rock relief were defined; topographic survey of the petroglyph territory and the photo documentation of its current state were executed, mikalent copies and the description of the state of the component part “Petroglyphs of Bol'shoj Golec island” and its main properties were made.

2.b.1.19 Component part “Petroglyphs of Bol'shoj Gurij island I, Petroglyphs of Bol'shoj Gurij island II”

The petroglyphs of groups 1 and 2 in Bol'shoj Gurij island can be dated to the Neolithic period of 4000 BC.

The petroglyphs in Bol'shoj Gurij island (group 1) were discovered by B.F. Zemlyakov in 1934. In 1935 they were researched by the expedition of V.I. Ravdonicas. The materials on petroglyphs were published in the catalogue “Rock art images of the Lake Onega” (1936). In 1972-1979 rock art images in Bol'shoj Gurij island were researched under the guidance of U.A. Savvateev. The number of petroglyphs and their outlines were specified as a result of this work.

In 1972 U.A. Savvateev discovered 14 new rock art images (group 2) not far from the known group 1 that were put on the state protection as a separate site. In 1991-2001 and in 2007-2008 N.V. Lobanova was the scientist to conduct the research. Within the course of works the plans were compiled, the copies were made and the photo documentation of rock art images was executed, including the area photo shoot. The materials on the research were published in the monograph “Petroglyphs of The Lake Onega” (2015).

In 2016 the territorial boundaries of the component part, inextricably connected with the rock panel with petroglyphs, were determined. The topographic survey of the territory and the photo documentation of their current state were performed, the copies and description of the state of petroglyphs of the component part were made.

2.b.1.20 Component part "Petroglyphs on Malyj Gurij island"

This petroglyphic group is associated with the Neolithic age, 4000 BC uncalibrated. The petroglyphs on Malyj Gurij island were discovered and researched by expeditions of U.A. Savvateeev in 1972-1973. In 1999, 2007 and in 2013 the monument was discovered by N.V. Lobanova. The instrumental plan, photo documentation and copying of rock art images came as a result of this work. The research materials were published in the monograph "Petroglyphs of The Lake Onega" (2015).

In 2016 the territorial boundaries of the component part "Petroglyphs of Malyj Gurij island," considering inextricably connected with the petroglyphic rock panel were determined, the topographic survey of the territory and the photo documentation of its current state were executed, the copies and the description of the state of rock art images of the component part "Petroglyphs of Malyj Gurij island" were made.

2.b.1.21 Component part "Petroglyphs in the mouth of the river Vodly"

The component part "Petroglyphs in the mouth of the river Vodly" dates back to the Neolithic period - the end of the 4 millenium BC. Apparently, they show the final stage of the petroglyphic complex of The Lake Onega.

The group of petroglyphs in the mouth of the river Vodly was discovered and researched by U.A. Savvateev in 1973. In 1987-1993 the monument was researched by the expedition of Estonian Society for Prehistoric Art under the guidance of V. Poikalainen. In 1997-1999 and in 2013 the research of petroglyphs was continued by N.V. Lobanova. The instrumental plan and the photo documentation were compiled as a result of this work. The research materials were published in the monograph "Petroglyphs of the Lake Onega" (2015). The main part of rock art images (80 figures) was discovered by the expedition of U.A. Savvateev. Estonian expedition further researched the data of petroglyphs during 1987-1993 and registered other 59 figures. Prospecting, initiated by N.V. Lobanova in 1997-1999 and in 2013, showed that the total number of rock engraving in the mouth of the river Vodla, revealed by the Estonian expedition, was significantly lower, since as a part of those images have a natural origin.

Within this group some previously unknown petroglyphs were identified and the outlines of the registered engravings, that were previously unclear, were updated and improved. In 2016 the territorial boundaries of the component part "Petroglyphs in the mouth of the river Vodla," considering the rock surface, inextricably connected with it, expressed in the landscape and being limited with natural features of the rock relief were determined; the topographic survey of the site area and the photo documentation of its current state were executed, the mikalent copies were made and the descriptions of the state of the component part "Petroglyphs in the mouth of the river Vodla" and its main properties were compiled.

2.b.1.22 Component part "Petroglyphs in the mouth of the river Chjornaja"

The present petroglyph in the mouth of the river Chjornaja sanctuary can be dated to the Neolithic-Eneolithic period (4000 BC). The site was discovered in 1971-1972 by A.D. Stolyar and U.A. Savvateev. In 2013 the new instrumental topographic plan of the territory of the component part was compiled and the photo documentation with general views of the rocks featuring rock art images was made.

2b.2 Component "Petroglyphs of the White Sea"

The history of discovery and research of the Petroglyphs of the White Sea present a long process that continues up to the present times. It was caused by the unrelenting interest of experts and amateurs towards such unusual and mysterious archaeological monuments as well as developing methods of their search and documentation allowing to get new information.

There are a few stages in their study.

The first stage is the pre-war period (1926-1939).

The first group of petroglyphs of Besovy Sledki in the island Shoirukshin was discovered by an ethnography student A.M. Linevsky from Leningrad University in 1926. Local citizens (pomory) who started developing the White Sea coast as early as in the XII century undoubtedly knew about the existence of these rock art images and were most likely wary of them. Their origin was attributed to evil powers, hence the name 'Chertovy Sledki' derived from here. The pathfinder changed its name to Besovy Sledki, obviously, by analogy to Besov Nos. 10 years later (in September 1936) new rock images in this district were discovered by the expedition of the Leningrad archaeologist V.I. Ravdonikas on the islands Bol'shoj Malinin (Zalavruga), Erpin Pudas (2 points) and Shoirukshin (southern group). As V.I. Ravdonikas noted, the discovery of the big group of petroglyphs in the central rock of Zalavruga (the accurate name *Zalavruda*) was absolutely exceptional in its scientific and artistic value.

There, in his opinion, the masterpieces of the Neolythic art of Northern Europe were featured in full. In the same period, a Moscow archaeologist A.Y. Bryusov carried out the successful research and excavations of ancient rock art settlements. In 1938 the images of these petroglyphs were published in the catalogue by V.I. Ravodnikas "Rock art of the White Sea." It describes seven groups of petroglyphs, counting up to 615 figures located on three islands: Shoirukshin island (which includes two groups – Southern and Northern Besovy Sledki), Bol'shoj Malinin island (three groups of Zalavruga) and Erpin Pudas island (2 groups).

The second stage (1963-1972) is connected with the complex works performed by the researchers from the Karelian branch of the USSR Academy of Sciences. The White Sea archaeological expedition of the Institute of Language, Literature and History lead by U. A. Savvateev (geologists and paleogeographers from the Institute of Geology) discovered and registered other 31 groups of petroglyphs in the lower reaches of the river Vyg: 26 groups in Zalavruga, another group (the third) in Erpin Pudas island and four groups on nameless islands.

The large groups of petroglyphs, including hundreds of individual figures, were found as a result of excavations of the settlements of Zalavruga I and Erpin Pudas I. The new data on the White Sea petroglyphs and the natural environment during their functioning was presented in the monograph "Zalavruga" by U.A. Savvateev and in the monograph by E. I. Devyatova (1976).

The first work contains the entire corpus of sources on petroglyphs of the White Sea with a broad historiographical overview and an essay on the general issues of rock art. In total, U.A. Savvateev described about 1200 new figures. Only preliminary brief information featuring photos of the monument and graphic drawings of 25 images is dedicated to the third group of petroglyphs discovered in Erpin Pudas island. Later, the magazine "Soviet Archaeology" published a special article about this site.

The monograph written by E.I. Devyatova thoroughly examined the natural situation in the epoch of petroglyphs, the dynamics of its changes in the era of the Holocene, offering a general chronology and periodization of the petroglyphs of the southern-western region of the White Sea.

The third stage is modern (2000-2016).

Since 1973 to 2000 the field studies of the petroglyphs of the White Sea were not actually carried out, apparently due to this fact the information about the sites was published and the database was not being replenished. In 2001, the research of the petroglyphs of the White Sea resumed thanks to the activity of an international Karelian-Norwegian project "Conservation of Petroglyphs of Karelia" lead by N.V. Lobanova. The main goal of this project was to create a database of Karelian petroglyphs based on the complete and comprehensive field documentation. It was not possible to fully achieve the goal for the White Sea petroglyphs as the field works were conducted only during two field seasons on several groups (in Staraya Zavaluga, Erpin Pudas and nameless islands, located to the north of Besovy Sledki). The largest cluster of drawings on New Zalavruga (about 2 thousand figures) remained outside the project scope. A joint project with the Norwegian colleagues was carried out in 2007-2008 with the goals and objectives remaining the same. During 2002-2012, one of the programmes dedicated to the White Sea petroglyphs was carried out jointly with the University of Cambridge. As a result of the above mentioned project, complete data on the monuments was collected and archive materials were studied.

The third stage can be considered very successful, especially in terms of expanding the territory of the White Sea petroglyphic complexes in terms of more accurate ways of documenting the rock monuments. It became possible due to the comprehensive field studies of archaeologists from Karelian Research Centre of the Russian Academy of Sciences, Petrozavodsk State University, in collaboration with Norwegian colleagues from the University of Tromsø and the Research centre Riksantikvaren (Oslo), as well as the British colleagues from the University of Cambridge. During this period a great scope of work was performed, not entirely limited to documenting the monuments, but in terms of preservation, conservation, and use for touristic and educational purposes. One of the key results was establishing the database management system (DMS) titled “Petroglyphs of Karelia.” This database features topographic plans, photos and graphite copies of images, their detailed description (common and detailed description of figures, mentioning dimensions, orientation, height above waters, depth of engraving, degree of preservation, parametric data where various interpretation of separate figures or compositions were given). Along with archaeologists and geologists, lichenologists (lichen experts) from the Forest Research Institute of Karelian Research Center of the Russian Academy of Sciences (M.A. Fadeev) and Petrozavodsk University (A.A. Sonin) conducted their research. The field material was collected to determine the species composition of rock bio-destructors, explaining the processes of rock surface erosion, description of rock geomorphology. These works significantly influenced the development of methodology and preservation methods of Onega engraving, being focused on defining the exposure of lichens on rock surface with petroglyphs and defining methods to decrease their degree of negative exposure on the monuments. The monitoring of lichenobiots allowed to identify the most problematic petroglyphs in terms of preservation in the lowest reaches of Vyg as well as to offer practical recommendations for their preservation and conservation, safe methods, slowing down the destructive processes in terms of environmental conservation.

The micro-project of the European Union "The Stone Book of the White Sea," realized in 2006 (curated by L. Lehtinen, Finland, Kierikki Center) allowed to implement new methods of documenting petroglyphs (including the so called mikalent copying method and area photography). Moreover, the recommendations for preservation and the use of the White Sea petroglyphs for tourism and educational purposes were developed at the international workshop in Belomorsk.

In 2007 archaeologists of the Institute of Language, Literature and History of Karelian Research Centre of the RAS continued documenting petroglyphs of Zalavruga and a new group of Zolotec within the framework of the second Karelian-Norwegian project "Preservation and Presentation of Karelian Monuments." The main attention was focused on the most poorly preserved groups of New Zalavruga. The outlines of the figures were revealed under a black film. They carried out their continuous graphic copying and photographing in groups and registered the mutual arrangement of petroglyphs on a rocky surface.

Geological and geomorphological works, initiated in the 1960s, were continued in 2007-2008 and in 2014. In geological aspect the region of location of the White Sea petroglyphs is characterized by the development of the most ancient of crystalline formations. This series is a complex of polymetamorphic subsurface rocks whose age is not less than 3 billion years. The field work allowed to define the character of subsurface rocks, to reveal the most weathered areas and outline some ways to reduce the processes of rock erosion.

The international project within the scope of the cultural cross-border cooperation program of the European Union "Bridge of Rock Art: The Link of Times" (the grantee is the travel agency “Karelika”), Petrozavodsk collaborates with the research, educational and tourist structures of Karelia and Finland). The elements of tourist infrastructure in the territory of Zalavruga were built, a renovation project for “Besovy Sledky” pavilion was launched, and the tradition of hosting primitive art festivals was established.

Throughout 2005-2016 new efficient methods were applied to reveal and document the White Sea petroglyphs (the black film method, area and panoramic photography), which gave the opportunity to expand the body of petroglyphic sources and update the old data.

Recent fieldwork has shown that the quantitative resource of the White Sea petroglyphs is far from being exhausted. New images were revealed in many known big groups, discovered by U.A. Savvateev (New Zalavruga, Erpin Pudas III), among the small clusters registered by the expedition of V.I. Ravdonicas (Erpin Pudas 1-2), as well as in small nameless islands. Thanks to the mutual collaboration of Russian and international colleagues, application of the new methods of research and documentation of petroglyphs the quantitative and qualitative potential of the monuments has been considerably enlarged.

During the field works of 2005-2012, new groups of petroglyphs were discovered in Zalavruga in Erpin Pudas island, at the threshold of Zolotec and in nameless islands. New information considering practically all rock art settlements, known earlier, was updated. There were rare and even unique themes among newly found figures.

Nowadays there is a scientific discussion about dating of petroglyphs of Karelia. Thus, E.M. Kolpakov, a major expert on this topic, an employee of the Institute of the History of Material Culture of the Russian Academy of Sciences, Doctor of History, expresses a number of objections to the absolute uniqueness of some petroglyphs of these two complexes.

There are also foreign viewpoints on the dating of Karelia's petroglyphs. L. Janik (2010) and J.M. Gjerde (2010) independently concluded studies on the petroglyphs of the White Sea that rely on the geological data, but emphasize a relative chronology based on comparison with the settlement data, and argue that the rock art is older than previously thought. Janik (2010: 94) dates it between c. 5600 BP and 4000 BP (4600–2000 BC), while Gjerde suggests a range between c. 5300 and 2000 BC. The internal chronology of the art is problematic, although it is possible to divide the figures into phases based on their elevations and the radiocarbon dates from the adjacent settlements, suggesting that there is a relational chronology based on the land uplift (Gjerde 2010b: 291–300). T. Lødøen (University of Bergen, Norway) is not convinced that the rock art of Karelia is left by only Neolithic groups, especially since the images seem to have such a focus on hunting perspectives which just as well have been left by foraging groups in the Late Mesolithic as in Norway and Scandinavia overall.

The challenge of dating Karelian petroglyphs has not been finally solved yet. Its accuracy largely depends on the general archeological and geological study of the both Onega Lake and White Sea coasts, which is not yet complete enough. Besides, there are many serious discrepancies in the given points of view, quite understandable and objectively justified: some of them rely mainly on the archeological materials, others - on the geological-palinological and geological-stratigraphic ones.

To date, the analysis and systematization of all collected factual data on archaeology, geology, paleobotany and paleo-geography allow us to present the time of appearance and functioning of the Onega Lake and the White Sea petroglyphs, the nature and dynamics of natural processes in more detail and reasonably than before. And on the whole the conducted researches have already given interesting results and give hope for the further success. In the future, most likely, we will not talk about revision, but only about specification of the proposed dating of petroglyphs of Karelia.

2.b.2.1 Component part "Petroglyphs Zalavruga"

Rock art images of the component part "Petroglyphs Zalavruga" in terms of their discovery are conventionally divided into two parts of Staraya (Old) and Novaya (New) Zalavruga. The petroglyphs of Old Zalavruga were first discovered and researched in 1936 by the expedition of V.I. Ravdonikas. The ocular plan, drawings, plaster models, and description of 216 discovered petroglyphs were executed within the scope of these works.

In 1963-1967 Rock Art images of the "New" Zalavruga were discovered by the expedition of U. Savvateev in the large-scale excavations in the area adjacent to the "Old" Zalavruga under the mass of cultural subsurfaces. 1176 images in 26 subgroups or assemblies were registered.

The instrumental plan of the part of component without the reference to the clusters of petroglyphs was drawn up, graphite copies and drawings as well as photos and description were made, and the publications were released.

In the years 2001-2015 the research of petroglyphs of the “Old” and “New” Zalavruga were continued in complex expeditions (including international expeditions) with the guidance of N. V. Lobanova. Throughout this period the number of revealed groups and rock art images significantly increased.

In 2001 the instrumental plan for the component part "Petroglyphs Zalavruga" with the reference to individual groups (clusters) was drawn up. Graphic drawings and descriptions were made and photographs were taken.

In 2016 the boundaries of the territory for the component part “Zalavruga petroglyphs,” considering the rock surface, inextricably tied to the territory, topographic surveying and photo fixation of its current state were executed, the description of the state of the component “Petroglyphs of Zalavruga” and its main characteristics were made.

2.b.2.2 Component part “Petroglyphs Besovy Sledki”

"Petroglyphs of Besovy Sledki" date back to the Neolithic Age, circa 4000 BC uncalibrated. Based on the data of the comparative-typological analysis of the petroglyphs of the lower reaches of the river Vyg, this group of petroglyphs reflects one of the late stages in development of rock art of the White Sea. The component part “Petroglyphs Besovy Sledki” were first discovered in 1926 by A.M. Linevsky.

In 1936, it was studied by an expedition led by V.I. Ravdonikas. As a result of the work the ocular plan was made up and the petroglyphs were copied to the tracing paper. V.I. Ravdonikas published the materials in the monograph “Rock Art of the White Sea” (1936).

In the 1960s and early 1970s U. A. Savvateev documented rock art images of the current group (photo fixation and graphite copying). In 1968 a protective pavilion above the rock surface was built in order to protect the images which happened to be too close to the dam after Vygoostrovskaya hydropower plant construction. Unfortunately, during the construction, a part of petroglyphs (6) partially or entirely fell under the concrete foundation of the building.

New engravings were discovered to the north of the building in 2011. In 2012 they were registered by A.M. Zhulnikov. As a result of works the registration data of petroglyphs were clarified. The research of the group was continued in 2012 -2015 by N.V. Lobanova. The researchers copied rock art canvas, performed photo fixation (aereal mapping and photo panorama of petroglyphs), clarified the outlines of the newly revealed images.

In 2016 the boundaries of the component part "Petroglyphs of Besovy Sledki," with due regard to the continuous rock surface and the borders of the pavilion building, were outlined, the topographic shoot at the site and photofixation of its current state were performed, and the descriptions of its state for its component part “Petroglyphs of Besovy Sledki” and its main characteristics were compiled.

2.b. 2.3 Component part “Petroglyphs Erpin Pudas I”

The component part of the "Petroglyphs Erpin Pudas I" dates to the Neolithic period, 4000 BC uncalibrated. Based on the data of comparative and typological analysis of petroglyphs of the lowest reaches of the river Vyg, the current group of petroglyphs presents one of the early stages in the development of rock art in the White Sea region. The rock art of the component part “Petroglyphs Erpin Pudas I” was discovered in 1936 by the expedition of V.I. Ravdonikas. 30 petroglyphs were discovered as a result of the research, the ocular plan was drawn up and the drawings of the figures were made. In 1938 Ravdonicas published the materials in the monograph “Rock Art of the White sea” (1938).

In 2001-2015 the site was explored by the expeditions of N.V. Lobanova. They compiled a topographic plan, performed photo fixation (aerial photoshoot), made graphite copies of petroglyphes and found previously unknown figures.

In 2016 the borders of the territory of the component part “Petroglyph Erpin Pudas I” were determined, considering the continuous rock surface, revealed in the landscape and limited by the natural elements of rock relief; topographic surveying of the site and photofixation were performed, and the description of the component part “Petroglyphs Erpin Pudas I” and its main features were compiled.

2.b.2.4 Component part “Petroglyphs Erpin Pudas II”

The component part "Petroglyphs of the Erpin Pudas II" dates back to the Neolithic Age, circa 4000 BC uncalibrated. Based on the data of comparative and typological analysis of the petroglyphs of the lowest reaches of the river Vyg, the group of petroglyphs “Petroglyphs of Erpin Pudas II” is referred to the early stage in the development of rock art of the White Sea. The group of petroglyphs Erpin Pudas II was first discovered by V.I. Ravdonikas in 1936. As a result of this research 3 petroglyphs were discovered, the ocular plan was compiled, copying of the petroglyphs on the tracing paper was performed. He published the research materials in the monography “Rock art of the White Sea” (1938).

According to the data of U. Savvateev (of 1970), the group of petroglyphs Erpin Pudas II was considered lost as a result of the natural exposure, in that regard this monument was not included in the State statistics. In 2001 the petroglyphs were discovered and identified, and in 2007-2008, 2013, additionally researched by N. V. Lobanova. The instrumental plan was compiled, the description was made, photofixation and graphite copying of petroglyphs were performed. The number of rock images was specified and the new rock art images were revealed.

In 2016 the boundaries of the component part of the “Petroglyphs Erpin Pudas II” were determined, considering the continuous rock surface, revealed in the surrounding landscape and limited to natural elements of rock relief; topographic surveying of the site and photofixation of it modern state were performed and the description of the component state “The petroglyphs of Erpin Pudas II” and its main properties was compiled.

2.b.2.5 Component part “Petroglyphs Erpin Pudas III”

The component part "Petroglyphs Erpin Pudas III" dates back to the Neolithic Age, circa 4000 BC uncalibrated. Based on the data given in the comparative and typological analysis of petroglyphs of the lower reaches of the river Vyg, the group of petroglyphs “Petroglyphs Erpin Pudos III” was referred to the early stage of rock art of the White Sea.

A group of petroglyphs Erpin Pudas III was discovered by an expedition of U. Savvateev in 1968 during the excavations of the ancient settlements of Erpin Pudas I-IV.

In the subsequent years (1969-1970), during the field archaeological work, the number of the revealed figures significantly increased. The materials were mainly published. As a result, the ocular plan was compiled and the petroglyphs were copied to the tracing paper.

In 2001, 2007-2008, 2013 years the research of this petroglyphic group was carried out by N.V. Lobanova. Based on the results of this research, the instrumental plan was made and the photographic fixation and graphite copying of petroglyphs were carried out. The new images are revealed and the outlines of previously identified figures were refined.

In 2016, the boundaries of the territory of the part of the component "Petroglyphs Erpin Pudas III" were determined, considering the rock surface inseparably linked with it, expressed in the surrounding landscape and limited by natural elements of the rocky terrain; topographic survey of the territory of the site and photographic fixation of its current state were carried out, descriptions of the state of the component part of the Petroglyphs Erpin Pudas III, its main characteristics were compiled.

2.b.2.6 Component part “Petroglyphs Erpin Pudas IV”

The component part "Petroglyphs of Erpin Pudas IV" dates back to the Neolithic Age, circa 4000 B.C. uncalibrated. The component part “Petroglyphs Erpin Pudas IV” was discovered in 2008 by the expedition of N.V. Lobanova and it was researched in 2009 and 2013-2014. The instrumental plan was compiled, the photo fixation and graphite copying of petroglyphs were executed, and the detail art and description of the figures were made.

In 2016 the boundaries of the territory of the component part “Petroglyphs Erpin Pudas IV,” considering the continuous rock surface expressed in the surrounding landscape and limited to the natural elements of the rock landscape; topographic surveying and photo fixation of its current state were performed, the description of its current state of the component part “Petroglyphs Erpin Pudas IV” and its main characteristics was compiled.

2.b.2.7 Component part “Petroglyphs on the no-name islands I”

The component part “Petroglyphs on the no-name islands I” dates back to the Neolithic period, circa 4000 B.C. uncalibrated. Based on the data of comparative and typological analysis of petroglyphs of the lowest reaches of the river Vyg is referred to the late stage in development of rock art of the White Sea. The group of petroglyphs in a small nameless island was first discovered in 1963 by U. A. Savvateev. He produced the general scheme, descriptions, photos and drawings which were subsequently published.

In 2001, 2013-2015 the research of this petroglyphic group was carried out by N.V. Lobanova. She compiled the instrumental plan and detailed documenting of the images including description, photofixation and graphite copying. Therefore, the new, previously unknown figures were identified.

In 2016 the boundaries of the territory of the component part “Petroglyphs on nameless islands I” were determined, considering the rock surface inextricably connected with it, articulated in the surrounding landscape and limited by natural elements of the rock landscape; topographical survey of the territory and photographic fixation of its current state of the component part “Petroglyphs on the no-name islands I” and its main properties.

2.b.2.8 Component part “Petroglyphs on the no-name islands II”

The component part "Petroglyphs on the no-name islands II" dates back to the

Neolithic Age, circa 4000 B.C. uncalibrated. Based on the data of comparative and typological analysis of petroglyphs of the lowest reaches of the river Vyg, a group of petroglyphs “Rock images in nameless islands II” is referred to the late stage in the development of rock art of the White Sea.

The site of archaeological site “Petroglyphs of nameless islands II” was first discovered in 1963 by the expedition of U. Savvateev within the research in the lowest reaches of the river Vyg. He made short descriptions, photos and detail art of three images and a few unclear rock engravings, which were later published. The plan of petroglyphs was not compiled, and the brief description of their location was not enough for filing the component part “Petroglyphs in nameless islands II” for the state protection.

In 2001, the petroglyphs were rediscovered and identified, and in 2004, 2013-2015 they were further researched by N.V. Lobanova. The instrumental plan was compiled, the description was made, photographic fixation and graphite copying of petroglyphs were performed. The number of rock art engravings and their configuration was specified.

In 2016, the boundaries of the territory of the component part "Petroglyphs on the no-name islands II" were determined, taking into account the rock landscape inextricably linked with it, articulated in the surrounding landscape being limited by natural elements of rock relief; topographic surveying of the site and photo fixation of its current state were made, the descriptions of the state of the component “Petroglyphs of nameless islands II” and its main properties were compiled.

2.b.2.9 Component part "Petroglyphs on the no-name islands III"

The component part "Petroglyphs on the no-name islands III" dates back to the Neolithic age, circa 4000 B.C. uncalibrated. Based on the data of comparative and typological analysis of the petroglyphs of the lowest reaches of the river Vyg, the group of petroglyphs “Petroglyphs on the no-name islands III” is referred to the early stage of the rock art of the White Sea.

The site of archaeological heritage “Petroglyphs on the no-name islands III” was first discovered in 1964 the expedition of U.A. Savvateev while carrying out prospecting and exploration in the lowest reaches of the river Vyg. He made brief descriptions, photographs and drawings of three images and a few unclear rock engravings which were later partially published. The layout of petroglyphs was not compiled, and the brief description of their location was not enough for the state protection.

In 2001 the petroglyphs were rediscovered and identified, and in 2004, 2013-2015 were further researched by N.V. Lobanova. The instrumental plan and the description were drawn up, photo fixation and graphite copying of petroglyphs were performed. The number of the rock engravings and their configuration was specified.

In 2016, the borders of the petroglyphs area were determined, considering the rock surface articulated in surrounding landscape being limited to the natural elements of the rock relief; topographic surveying of the territory “Petroglyphs on the no-name islands III” and photo fixation of its current state were performed and the description of its state and main properties were compiled.

2.b.2.10 Component part “Petroglyphs on the island Bol’shoj Malinin”

The component part "Petroglyphs on the island Bol’shoj Malinin” dates back to the Neolithic Age (circa 4000 B.C. uncalibrated). The petroglyphs present a major interest for the research of rock art of Northern Europe and are presumably referred to the very early stage of the rock art of the White Sea.

The petroglyphs on Bol'shoj Malinin island were first discovered in 1963 by U. A. Savvateev. He made descriptions, photos and drawings of two images which were later published. The plan for the petroglyph monument was not compiled. The plan for petroglyphs was not compiled and the description was not compiled and their location was inaccurately mentioned in a small nameless island.

In this regard, the component part of "Petroglyphs on the island Bol'shoj Malinin" was not filed for the state protection.

In 2001, petroglyphs were rediscovered and identified by N.V. Lobanova with 6 more figures being identified. Along with that, the instrumental plan of the monument was made, descriptions and copies of petroglyphs were made. The location of petroglyphs was specified: the south-eastern shore of Bol'shoj Malinin island.

In 2016, the boundaries of the territory of the component part “Petroglyphs on the island Bol'shoj Malinin,” considering rock surface, inextricably connected with it, expressed in the features of the surrounding landscape and limited by natural elements of the rock relief; topographic surveying and photo fixation of the modern state were conducted, descriptions of the state of the component “Petroglyphs on the island Bol'shoj Malinin” and its main properties were compiled.

2.b.2.11 Component part “Group of petroglyphs Zolotec I”

The component part "Group of petroglyphs Zolotec I" dates to the Neolithic Age, 4000 BC uncalibrated. Based on the data of the comparative and typological analysis with the petroglyphs of the lower reaches of the river Vyg, the group of petroglyphs Zolotec I represents one of the latest stages of the rock art of the White Sea.

The group of petroglyphs Zolotec I was discovered in 2006 by the expedition of A.M. Zhulnikov, who identified and classified 19 figures. He also made the plan of the site and the drawings of the figures, which were later published (Zhulnikov, 2010). N.V. Lobanova continued the studies in 2006-2008, 2013-2015, as a result, the information on the component part was clarified and 82 figures were documented.

In 2016, the boundaries of the territory of the component part “Group of petroglyphs Zolotec I,” taking into account the rock surface inextricably linked with it, expressed in the surrounding landscape and limited by natural elements of the rocky relief; a topographic survey of the petroglyphic territory and photographic documentation of their present state were carried out, the descriptions of its state and basic characteristics were compiled. The component part “Group of petroglyphs Zolotec I” presents an apparent interest for the research of rock art of Northern Europe.

8. CONTACT INFORMATION OF RESPONSIBLE AUTHORITIES

8.a. Preparer

Filatova Nadezhda V.

Head of the Department for World Heritage and International Cooperation

Heritage Institute

Address: Russia, Moscow, nab.Bersenevskaya, 18-20-22

Tel / Fax: +7 495 686-13-19

E-mail: info@heritage-institute.ru

Website: http://www.heritage-institute.ru

8.b. Official Local Institution/Agency

Department of the Republic of Karelia for the protection of cultural heritage

Address: Russia, Republic of Karelia, Petrozavodsk, Lenin square, 2

Tel / Fax: +7 8142 78-55-01

Website: http://www.gov.karelia.ru/gov/

Email: okn.karelia@yandex.ru

8.c. Other Local Institutions

State institution of the Republic of Karelia "Republican center for state protection of cultural heritage" (legal address: 185035, Republic of Karelia, Petrozavodsk, 5, F. Engels street, e-mail: monuments.karelia@mail.ru)

8.d. Official Web address

The website will be created after the nomination is included in the World Heritage List.

9. SIGNATURE ON BEHALF OF THE STATE PARTY

Head of Department for State Protection of Cultural Heritage
of the Ministry of Culture of the Russian Federation

R.A.Rybalo